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FROM OLIGOPOLISTIC DIGITAL PLATFORMS TO OPEN/COOPERATIVE ONES?

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From oligopolistic digital platforms to open/cooperative ones?

Based on a literature review, this paper explores the disruptive nature of digitalization and the oligopolistic digital platforms that embody it, as well as the promises and difficulties of emergent open cooperative platforms. Before analysing the main questions raised by those platforms, we first propose a brief analysis of the digitalization process as a socio-technical mutation, of its risks and opportunities through four prospective scenarios. We then build a typology of the oligopolistic platforms at the heart of the present phase of digitalization that cooperative/open platforms aim to supplant or at least to challenge. Could the combination of the new open source movement, with the principles developed for successful commons and those of the older cooperatives offer an alternative? The obstacles are huge, and the questions raised much more abundant than the answers brought by theory and/or experimentation. The development of alternative platforms is thus questioning modes of: Distribution of the bundles of rights and governance; Centralization and decentralization; Autonomy and synergy; Choice of activities; Growth; Differentiation, standardization, convergence and hybridization; Localisation, globalisation and glocalization; Fair pricing; Organization of work, protection of workers and more largely citizen; Inclusion and exclusion of stakeholders; Funding; Relationship to the State and private or public entities … among other, often combined, dimensions. Most importantly, alternative platform development also questions the capacity for cooperation of a highly socialized human nature.

Key words: Digitalization, Oligopolist Platforms, Alternative Platforms

From oligopolistic digital platforms to open/cooperative ones?

It could be suggested that researchers who deny that we are facing a huge socio-technological revolution combining the way we use and will use biotech and infotech (Harari, 2018) are likely also those who deny the existence of climate change. As Brynjolfsson and McAfee put it: "Let's be clear about one thing: Digital technologies are doing for human brainpower what the steam engine and related technologies did for human muscle power during the Industrial Revolution. […] It's a very big deal. But how exactly it will play out is uncertain." (2015: 66). Of course, the debate (Valenduc and Vendramin, 2017) is raging about the characteristics, the size, the speed and the consequences of these complex phenomena. How could it be otherwise when they depend on the intended and unintended effects of our collective actions (Merton, 1936)?

For those of us who envision knowledge as a common good, this situation, fraught with risks and opportunities, is a trigger for research. Are we able to construct some scenarios of the future that can enlighten our collective responses and decisions? We argue that this should be the role of engaged scholarship in our very uncertain times. As management is the science of piloting organized and goal-driven collective action, we believe that management scholars should be at the forefront of understanding which organisational models are best adapted to protecting our planet while assuring the development of our capabilities, innovation, and the routes that can lead us toward a desirable future.

First, drawing on a review of the literature, we consider the main social issues of digitalization and suggest some scenarios for its future (I). On this basis, we examine digital platforms, a core piece of the digitalization puzzle, to understand how platforms (networks connecting people, things, organizations and their data), initially offered as part of a "shared" or "collaborative" economy, become oligopolies, or even predatory monopolies (II). Having outlined this context, we then address the following question: why and under which conditions could cooperative digital platforms become a more important and prominent part of the digital economy? To this

end we explore the commons, open source and cooperative theories and practices, their contributions and limitations (III).

I - Context and prospective scenarios of digitalisation

Distribution of revenues has been mostly from work and capital. What is going to happen if traditional jobs become rare; a likelihood through the new stages of digitalization: automation, robots ("automate" for Zuboff, 1985) and artificial intelligence ("informate" for Zuboff, 1985) using big data provided by different kinds of captors and sensors. What role will digital platforms or more accurately platformization play, in this process, the possible connection of everything, everyone with everything and everyone, everywhere ?

Digitalisation, employment, work and activity

Mass production, distribution and consumption, with the concentration of blue collars workers in huge factories, are diminishing in the Western world (Toffler,1980). The kind of social movements, of collective action, resistance to technological transformation or advocacy of its regulation and some redistribution, which have fuelled compromises in the past, are now decreasing if not disappearing (Boyer, 2013). For a long time "The fortunes of routine producers are declining. In-person servers are also becoming poorer, although their fates are less clear-cut. But symbolic analysts-who solve, identify, and broker new problems-are, by and large, succeeding in the world economy." says Reich (2009: 290) who was among the first to identify those 3 types of workers and their divergent fortunes (1991).

Through Global Value Chains, offshoring and outsourcing (Milberg and Winkler, 2008) and digitalization, routine jobs will either disappear as human jobs if they cost less when automated, or they will be partly disintegrated in click work (Casilli, 2019). This work is now often performed by consumers (evaluation, self-service on internet, image recognizing, etc.), or by "independent" workers in the developed world and by the inhabitants of its ex-colonies through devices such as Amazon Mechanical Turk. Following this Amazon example, we envision a

customer's purchase order of goods, being influenced by personalized advertisement drawing on accumulated personal data based on algorithms created by digital labour, and no longer being placed with a salesperson in a shop but instead through on a digital platform and then delivered by a drone or an automated car from factories and storage where production is more and more automated. Of course, a lot of routine tasks are tightly intertwined with less routine ones which even when they appear strictly planned may need initiative, knowledge and cooperation in order to be correctly achieved. It is the classical difference, often observed, between prescribed and real work.

Digitalization has and will transform more complex jobs. Digital devices will assist human individuals and groups. For example, surgeons are helped by digital cameras and surgical robots and are beginning to operate from distant locations. As well, digitalization will expand some creative/ design work and also care work for youth, the disabled and elderly, to the extent that it can be financed outside of luxury care.

Of course, without doubt, new jobs are going to emerge through creative destruction even if they are difficult to identify at present.

Jobs at greatest risk of automation/digitalisation	**Jobs at least risk of automation/digitalisation**	**New jobs**
Office work and clerical tasks Sales and commerce Transport, logistics Manufacturing industry Construction Some aspects of financial services Some types of services (translation, tax consultancy, etc.)	Education, arts and media Legal services Management, human resources management Business Some aspects of financial services Health service providers Computer workers, engineers and scientists Some types of services (social work, hairdressing, beauty care, etc.)	'*Top of the scale'* Data analysts, data miners, data architects Software and application developers Specialists in networking, artificial intelligence, etc. Designers and producers of new intelligent machines, robots and 3D printers Digital marketing and e-commerce specialists *'Bottom of the scale'* Digital 'galley slaves' (data entry or filter workers) and other 'mechanical Turks' working on the digital platforms, Uber drivers, casual odd-jobbing (repairs, home improvement, pet care, etc.) in the'collaborative' economy

Source: Christophe Degryse (ETUI 2016) on the basis of data from Frey & Osborne, Ford, Valsamis, Irani, Head, Babine

The ongoing debate, such as for example between Frey and Osborne (2013) and Autor et al., (2015) centres on the total quantity of human work made available in this "new" economy and the risks of polarization of work and society (Brynjolfsson and McAfee, 2015). Now, robots are replacing less "brawn than brain". This development raises questions about the organization of work, the status of jobs still salaried, or more and more independent or prosumer ones. It also questions the distributive and protective quality linked to those "jobs" which through offshoring and outsourcing often avoid labor laws and any social protection. Demography is, of course, playing a huge role in providing answers that invariably depend on global and national socioeconomic contexts. The issue extends beyond problems of employment and unemployment to broader questions of the meaning and value given to human activity. We have to ask: Are we going to live in a world where inequalities continue to increase, where millions of humans live in poverty, or are assisted in order to survive, feeling worthless and useless or are we going to find the paths towards more individual and collective development of our capabilities (Sen, 2005)?

What are the possible scenarios of digitalization?

If we consider the progress of digitalization, we can envision four scenarios for our future: Chaos, Totalitarian Digitalization, Oligopolistic Digitalization and Democratic Digitalization. Some of them are developing now in front of our eyes.

Chaos: One of the not totally unlikely (if very pessimistic) outcomes of the mix of infotech, biotech and climate change, embedded in and fuelling a neo-liberal regime, is a kind of Apocalypse that some researchers are beginning to fear (Lenton et al., 2019, Servigne & Stevens, 2015). Human beings are unable to cooperate and confront the formidable challenges of transforming our whole socio - economic model. This has become impossible because of the rise in poverty and inequalities among and within developed and developing regions, massive migrations and social uprisings, wars and the degradation of the environment resulting from the

intended or unintended effects of hegemonic power driving competition to maximize short-term shareholder value, and/or through the wounds of history.

Totalitarian Digitalization: authoritarian regimes, either religious or nationalist, inspired by theories of perfect equality or natural inequalities, may tackle the social and environmental challenges. They are brought into power through fear, defiance toward useless governments and scapegoating of the "other" (Polanyi, 1944). These regimes can either use environmental, demographic and economic planning or they can refuse to acknowledge any environmental or social emergency and allow neither freedom nor long-term actions. They can also, forbid political democracy, while accepting some market mechanisms. In these circumstances, they are harnessing digitalization to organize a digital Panopticon (Zuboff, 2015), a mass surveillance and a strict control of information, allowing elites to dominate an impoverished population, which may or may not "benefit" from more or less redistribution through public service and/or basic universal revenues. In the planning scenario, these regimes are supporting the rise of robots and even some transhumanist devices, a mix of H.G. Wells, Orwell and Bentham' Panopticon so well foreseen in science fiction, and evident in some countries today. A good illustration is the Chinese "social credit system" (to be completed by 2020) allowing, on the basis of massive data collection the grading and ranking of the quality of citizens and organisations, which will determine their rights and incentives. As the Chinese State Council Notice (2014) put it: "Our country is currently in the assault phase of deepening economic structural reform and perfecting the Socialist market economy system. The modern market economy is a credit economy, **establishing and completing a social credit system**, an important step in rectifying and standardizing the market economy order, improving the market's credit environment, reducing transaction costs and preventing economic risk, and is an urgent requirement to reduce administrative governmental interference in the economy and perfecting the Socialist market economy system." This system, presenting itself openly as

comprehensive and scientific, is focusing on all individuals and sectors, "on the areas of industry and commerce, tax payment, pricing, import and export, production safety, product quality, environmental protection, food and drugs, medicine and healthcare, intellectual property rights, logistical services, project construction, e-commerce, traffic and transportation, contract fulfilment, human resources, social security, education and research" (idem).

However, the focus of researchers and activists alike on the "surveillance society" (Lyon, 2001) masks, in our view, the concentration and oligopolistic movement in industry accompanied by servicification that also creates a major risk for democracy.

Oligopolistic Digitalization constitutes the main contemporary trend. Digitalization is exacerbating currents present since the 1980s: neoliberalism (deregulation, financialization, liberalisation), inequalities, and a globalization driven by global value chains. Oligopolist platforms play a major role here. The role of the State is lessened either through treaties consented to and/or through domination, by commercial, tax and social competition, or tax evasion. Multinational Corporations (MNC) and oligopolist digital platforms impose the rules of the game. Wars remain localized, while social conflicts, often exploited by right wing parties or fundamentalist religious movements, are growing. They are fuelled by popular dissatisfaction and humiliations arising from transformations in work and degradation of jobs, low and precarious living standards and also by postcolonial histories. The contrast among personalized pressure to consume, nurtured by the data gathered and treated by the platforms, a narcissism accelerated by social media and an individualization pushed by corporate and national politics[1] on the one hand, and poverty/polarization accompanied by relegation, social isolation and discrimination, on the other hand, constitutes an explosive mix. This mix is, in this scenario, still compensated by more or less redistribution through social and public services and/or a low-level universal income, etc… Organised collective movements aiming at social

[1] For example: individualization of benefits and compensations or pension plans

development and protection of the environment are rendered difficult by the fragmentation of the workforce and an individualist or fundamentalist culture. This trend could drive, and has in some case driven, toward totalitarian digitalization or at least, totalitarian regimes.

Democratic Digitalization, for most, the most desirable future, involves a mix of coordinated regulation forbidding monopoly positions for digital business, protecting the environment and human rights, supporting the creation of alternative digital organizations and partnering with them. This cannot happen without a push from those suffering from non-democratic digitalization. It is not easy to achieve. As underlined above, the competitive and maximising shareholder value regime has fragmented society. Digitalization is strengthening this phenomenon but can also help to strengthen economic and/or democratic communities. As we shall see below, veritable cooperative platforms inspired by traditional cooperativism (Patmore & Balnave, 2018), commons (Ostrom, 1990) and open source movements (Barahona, Quiros & Bollinger, 1999) or by new kinds of corporations focused on a mission (Segrestin & Hatchuel, 2012) have yet to fully develop or in the case of the open source to solidify their position

Cooperative digitalization can remain a subordinated part of the former model as the third sector is today. It could also become mainstream, autonomously, or by partnering with public or corporate organizations, peacefully or through crisis and negotiations (Caffentzis & Federici, 2014). We may be inspired by the Athenian Democracy at its best with citizens sharing not only civil rights but also economic ones through property and management of some common goods so defined by an exigent democracy. They would also share crucial duties through their active contribution to the life of the city and their own development. Why has this cooperative/democratic model not yet become stronger? Why have our contemporaries been unable to avoid greed and total competition? Is cooperation only thinkable after humans have been faced with common, massive catastrophes as was the case after WWII (Supiot, 2012)?

Platformization has begun to embody digitalization to the point that both phenomena are often conflated. We will now focus our attention on oligopolistic platforms, which are triumphant at present and driving the digital revolution, before turning our attention to considering if alternative platforms could develop and offer a more desirable future.

II - Oligopolistic platforms

Digital platforms are supported by the Internet, the platform of platforms, a network of networks, so it is not logically difficult to understand why they embody and exploit the essential potential of this device for connection. These platforms bring together different technical elements, as well as multiple actors constituting their networks and the key to their success. They thrive on connecting humans, things and organisations from which they extract data.

Platforms, the web and the Internet

The Internet was born in 1969 with a vision of sharing, first, computer space and then, information at the crossroad of very different cultures: both the Californian "peace and love" movement and the United States (US) Defence Department prospective research and funding. Of course, other contributions existed, and the history of the Internet is a complex one where, from the start, different worlds met. As Turner noted in "*From counterculture to cyberculture"*, (2006:8) "This book, then, does not tell the story of a countercultural movement whose ideals and practices were appropriated by the forces of capital, technology, or the state. Rather, it demonstrates that the New Communalist wing of the counterculture embraced those forces early on…" However, Tim Berners-Lee, a scientist from the CERN, who founded the WEB and its HTTP protocol in 1989, which allowed the communication of information between multiple computers declared in 2018: "Make the web work for people**.** The web that many connected to years ago is not what new users will find today. What was once a rich selection of blogs and websites has been compressed under the powerful weight of a few dominant platforms. This concentration of power creates a new set of gatekeepers, allowing a handful of platforms to

control which ideas and opinions are seen and shared. These dominant platforms are able to lock in their position by creating barriers for competitors. They acquire start-up challengers, buy up new innovations and hire the industry's top talent. Add to this the competitive advantage that their user data gives them…"

Indeed, the Internet and the WEB did not develop in a political/social/economic void but in the context of neo-liberalism, financialization and a globalization supported by Global Value Chains (Milberg & Winkler, 2008; Durand & Milberg, 2018), producing, distributing and capturing value in different locations favourable to maximizing shareholder value and driving a consumer frenzy. The result was not the "End of History" nor the global progress predicted by some, but a much more blurred landscape. Intentional moves by the hegemonic block have encountered unintended effects. Whole regions of the globe, mostly in Asia, have progressed out of extreme poverty and economically upgraded to the point of challenging the Western domination (World Bank 2018: 1)[2]. Humiliation and history have pushed others toward terrorism and war. Inequalities have grown, legitimated by global competition and the fall of the Communist regimes, strangling a middle class that in a quite Polanyian stance, once again, became very receptive to totalitarian dreams. To the great transformation outlined by Polanyi (1944), some authors add the great divide taking place between the end of the 20th and the beginning of the 21st centuries.

Digital platforms mediate, creating or capturing two (or multi) sided markets (Rochet & Tirole, 2005), interactions between users, notably providers and consumers. Distinctions between consumers and providers are not always clear.

[2] "The world has made remarkable and unprecedented progress in reducing extreme poverty over the past quarter century. In 2015, more than a billion fewer people were living in extreme poverty than in 1990. The progress has been driven by strong global growth and the rising wealth of many developing countries, particularly in the world's most populous regions of East Asia and Pacific and South Asia" (WB 2018, p.1).

Sometimes identified as part of the "sharing" "collaborative" economy, platforms became known as the GAFAM (Google, Apple, Facebook, Amazon and Microsoft), the NATU (Netflix, AirBnB, Tesla and Uber) and also the rising Chinese BATX (Baidu, Alibaba, Tencent and Xiaomi)[3]. According to Smyrnaios (2016) and Srnicek (2017) their ambition is to control all transactions and absorb the whole market. Indeed, Srnicek insists upon the important role of industrial platforms which are sometimes totally ignored by the academic literature. One of the main risks of the present situation regarding the Internet is a new kind of enclosure supported by the whole set of these oligopolistic platforms.

Ideal-types of platforms

The definition of platforms, their characterization and typology remain confused, which is easily understandable given that their landscape is both emerging and evolving. Typologies are usually focused on one kind of activity (e-commerce, work sourcing, etc.) or on different business models; they often mix types of activities with value extraction models, while the platform companies evolve on both dimensions, blurring the distinctions between the different models. Indeed, all of them mobilize network effects, the extraction, storage and treatment of big data.

We will now distinguish 3 types of digital platforms in order to clarify the blurred landscape [4] (Vercellone et al., 2018) and also to establish the basis for our discussion of the possibilities for alternative platforms.

The information research/social media platforms

[3] **Baidu**: Search engine, Chinese equivalent of Google; **Alibaba**: A marketplace and secure payment platform; **Tencent**: Platform for instant messages; **Xiaomi:** Producer of smartphones, named the Chinese "Apple"

[4] While we were finalizing this paper, the results of a research on "Data driven disruptive commons-based models "as a working paper (Vercellone et al., 2018) were published, showing major convergences with the argument we are presenting here. We have incorporated them in our exposé as far as possible.

The first type of digital platforms that has attracted a lot of attention, is that of search engines and social media fuelled by advertising. Google and Facebook, for example, offer a service for "free" to their users but exploit a lot of the traces those users leave behind or content they create to sell advertising space, or in a more worrying manner, information that can be used for "nudging" as was made evident through the scandal surrounding the illegal activity engaged in by Cambridge Analytica. When facing the U.S. congress in April 2018, Mark Zuckerberg answered the question posed by Senator Orrin Hatch: "How do you sustain a business model in which users don't pay for your service?" by saying: "Senator, we run ads". Selling space for ads is indeed only the first stage of this model's ability to dominate the competition, winning by attracting as many users as possible and progressively being able to personalise the messages addressed to each category of users after analysing the big data they produce. This production of saleable data (after analysis) has led some theorists to define the users' many activities as digital labor (Cassilli &Posada, 2019) and to deduce that this labor should be paid for. Other scholars consider it to be raw material (Srnicek, 2017; Scholtz& Schneider, 2016). Algorithms and artificial intelligence (AI) are increasingly allowing analyses not only of big data on human actions and human functioning[5] but also on the functioning of homes, machines, organizations and cities…, functioning that can be captured by different kinds of rapidly progressing sensors. This model of "'data extraction and analysis,' 'new contractual forms due to better monitoring,' 'personalization and customization,' and 'continuous experiments'" (Zuboff, 2015) is the basis of the diverse development of the oligopolistic platforms models where connection is key.

The digital marketplace platforms

[5] For example: wireless-enabled wearable technology devices that measure data such as the number of steps walked, heart-rate, quality of sleep, steps climbed, and other personal metrics.

The second type we propose is that of the marketplace platform C to C, B to C or B to B where the price paid is that of the intermediation through Transaction fee (Merchant margin) and/or Member fee (Subscription/freemium models) and/or Advertising fee and/or Database selling and/or Value- added service. … The marketplace platform can be specialized or generalist; it can be "asset-free" with no ownership over what it sells (Uber or Airbnb, the "sharing economy") or, at the opposite end of the spectrum, owning it. If we focus on service and work, it can involve proximity or distance; it can be highly integrated or highly fragmented or even automated (translation for example) tasks. The services and the goods sold on platforms are innumerable, and it is difficult to find any consumer service or good not affected. Banking, insurance and finance, currency, real estate, communications, transportation, tourism, matchmaking, legal, accounting and medical services, education, movies and entertainment, software, work, fashion, electronic goods, food and beverages and many more. Amazon is the ultimate example of the digital marketplace; it began by selling books, and it is now selling all kinds of goods, in particular crowd-working through Mechanical Turk. It owns its own bricks and mortar warehouses with its own products and is progressively opening its platform to other vendors. Developing its own (sometimes ethical) private label products and therefore taking hold of the whole value chain as big retailers have done before and also now selling its Platform as Service; a point we will tackle below.

The Platforms as a Service (PaaS)

The most lucrative Business Unit of Amazon in April 2018 is its Web Services (AWS) unit, which dominates the emerging market of renting computing infrastructure to companies, $5.4 billion (in addition to charging other businesses for selling their goods on its own site and thus being able to capture their data). While AWS dominates e-commerce, big industrial companies, sometimes in partnership with others, (notably with AWS) have launched their own industrial platforms, their Industrial Internet of Object (IoT) for renting and are proposing to automate

and rationalize the whole manufacturing process. In this blurred emerging domain, often named Industry 4.0 (Lee et al., 2015) General Electric and Siemens have been among the main contenders, with ambitious projects, supported by vast consortiums, North American for the first one, German for the second, in a nationalist-driven effort to dominate the field. GE's Predix project, launched in 2013, has been part of a spinoff in 2018 and partners with Microsoft Azure[6], while Siemens' MindSphere continues its development. MindSphere is presented in the following terms on its website: "MindSphere is the cloud-based, open IoT operating system from Siemens that connects your products, plants, systems, and machines, enabling you to harness the wealth of data generated by the Internet of Things (IoT) with advanced analytics." It "utilizes both Siemens' open Platform-as-a-Service (PaaS) capabilities along with access to AWS cloud services". SAP and Microsoft Azure clouds are also part of MindSphere's proposal. In MindSphere World, launched in 2018, companies such as sensor specialists, machine and robot manufacturers are joining forces and trying to influence the new standards setting while supporting start-ups and independent developers' contributions. MindSphere adopts a subscription-based pay -as -you go pricing model. Because the IoT provides more data than humans, the industrial platforms and the smart factories have a bright if seemingly dangerous future.

It is remarkable that the oligopolistic platforms have moved toward combining their different activities and value extraction models quite far from their initial core business. Some researchers name them Moligopolies (Petit, 2016) and analyse both their vertical and horizontal strategy of integration.

Problems posed by oligopolistic platforms and proposed solutions

[6] https://news.microsoft.com/2018/07/16/ge-and-microsoft-enter-into-their-largest-partnership-to-date-accelerating-industrial-iot-adoption-for-customers/?utm_source=t.co&utm_medium=referral

What are the main problems posed by these different types of platforms and the solutions proposed to overcome them?

- First is the risk of major enclosure: in 2018, GAFAM plus Alibaba and Tencent were among the 10 biggest world capitalisations (source PwC). Through the mega data centers and their own submarine cables,[7] they are privatizing the physical infrastructure of the Internet. They have accumulated vast amounts of capital from investors, betting on network effects, big data and "winner takes all". They have undertaken massive acquisitions financed by their highly valued shares thus reinforcing and broadening their competencies and also their power. This power is exercised not only on the market but also on States and democracy[8]. They practice intensive tax optimization and tax evasion, using all the loopholes created by the tax competition among States, thus weakening public finances. They even intend to provide an alternative currency, the LIBRA. As a result, the founders of the Internet and the Web fear for the neutrality of the Net. The solutions proposed include anti-trust laws or forbidding acquisitions by the mammoth Net companies (Fox, 2019); retaliation measures against tax heavens (OECD, 2019); a panoply of laws guaranteeing equal access to the Internet and interoperability, forbidding censorship or, on the contrary asking for protection from fake news and heinous appeals, etc. (Bauer & Obar, 2014).
- A second related problem is that of the "Surveillance Society" and of the protection of democracy and personal data. For example, the European Union (EU) has promulgated The General Data Protection Regulation (GDPR) and has stated that "The regulation is an essential step to strengthen individuals' fundamental rights in the digital age and

[7] https://venturebeat.com/2018/01/16/google-will-expand-cloud-infrastructure-with-3-subsea-cables-and-5-new-regions/

[8] The project of a private currency embodied by the LIBRA project of Facebook appears as a threat to State's sovereignty.

facilitate business by clarifying rules for companies and public bodies in the digital single market. A single law will also do away with the current fragmentation in different national systems and unnecessary administrative burdens." The regulation enacted on 24 May 2016, became effective in May 2018. When allied to what is conceived as economic and even non-conventional wars through the use or hacking of platforms, fake news and new kinds of interventions in the democratic process, from foreign or any masked entities, constitute serious dangers challenged by appeals to the platforms' better management or to counterintelligence devices. The centralization of data is nonetheless progressing at a worrying speed with the connection of everyone and everything to platforms.

- A third and core problem is that of the future of work, tackled above. We will use the World Bank - World Development Report (WDR) on the changing nature of work (2019) to illustrate the diagnosis and the solutions proposed. In the WDR synthesis of the report (p. 5), the diagnosis focuses on the effects of technology on changing skills and changing Business Models. The WDR analyses necessary public policies, responding to those changes by managing the direction and effects of change. It advises investing in human capital, strengthening social protection, mobilizing revenue policy and gives special attention to social inclusion, which depends upon effective service provision, fair taxation regulation and voice given to the workers. The proposals presented are not so different from most put forward by trade unions which promote to relax, train and retrain, distribute and redistribute (Haldane, 2015; Degryse, 2016). In relaxing, trade unions include reducing salaried work hours as was done historically when technology allowed work productivity gains. They also include extending the protection of salaried workers to "independent" ones in order to respond to the diverse phenomena of outsourcing and fragmentation. Lifelong training is conceived as an

answer to the rapid changes in technologies; digital inclusion for the people in the developed or developing world suffering from the big digital divide is part of the skilling and reskilling package. Distribution and redistribution involve not only revenues but also power for all citizens.

Two domains directly “impacted” by the platforms also include: the necessity of restoring a safety-net in order to enable the protection of new jobs and the jobless and the necessity of providing the revenues to make this possible.

- Even before the rise of platformization, in 1999, a report sponsored by the European Commission and produced by a group of experts chaired by Alain Supiot, entitled "Beyond employment" (Supiot & Baamonde, 2016), advocated the structuring of a true social citizenship, able to meet the pluralization of the "production worlds" while respecting democratic processes. In particular, this report insisted on taking into account the issue of work outside salaried employment, with which it is still too often assimilated. The intention was to treat self-employment and the guarantees it needed in terms of social protection, but also, in a more original way, to recognize as work non-commercial and non-professional activities, such as taking care of people, lifelong learning and selfless activities exercised in the associative sphere. Social citizenship would thus revolve around four concentric circles of rights, reintegrating in the field of work these different types of activities: first the rights of salaried employees; then, those common to dependent or independent professional activity; further, rights based on non-professional work; finally, the social rights independent of any work. The aim here is to attach the benefit of a common core of social rights to the individual and not to employment, thus considering the entire "professional state of persons" and implementing an "active social security", enabling individuals to exercise a choice between these different types of activities, guaranteeing new freedoms in the sphere of

work. Beyond recognizing the huge labor mutations, this concept connects social rights to the notion of social integration, not just that of work, but above all, it connotes the idea of participation (Supiot & Baamonde, 2016). Indeed, for Supiot, the main thing is to give a voice, individually and collectively, to those who work or who, more broadly contribute. In his view, these people should participate in the definition and implementation of their rights and also in the meaning and the content of their activity. Following what became known as the Supiot Report, several debates took place, some focused on the best ways to attach core common social rights to citizens. Controversies have been raging, with some defending the funding of more public services, others mobilizing the old project of a more or less generous "basic" universal income, and those who think that both are necessary.

- How to distribute the gains of automation? If multinational companies escape taxes, digital platforms have much more leverage to do so. How can a satisfying social safety net be financed? In "Should Robots Pay Taxes? Tax Policy in the Age of Automation", Abbott & Bogenschneider (2018) tackle the digitalization phenomena more directly, arguing that tax policies must be changed because most of the tax revenues are based on work and robots do not pay tax. At a minimum, tax policy should at least be neutral toward human workers and robots. Abbott & Bogenschneider note, "we have proposed a series of tax policy changes that could level the playing field for human workers" (p. 167).

The goals pursued by these proposed public packages are clearly stated: governments should prepare people to face new and changing work situations and push towards a new social contract, in order for the citizens and nations to be able to compete in the market. In this framework, fair competition and profits at the individual, company and national levels are the ultimate goals. This may explain why so few of the reforms presented above, proposed in order

to regulate the global capitalism, have been successfully implemented. Competition usually prevents paying more for work and prevents basic cooperation at an international level.

As Supiot (2018) puts it: "What is unique to neoliberalism – and sets it apart from classical liberalism – is the way it treats the law in general, and labour law in particular, as a legislative product competing in an international market for regulations where a race to the bottom in social, fiscal, and environmental standards reigns supreme. Rule of law is thus replaced by law 'shopping', subordinating the law to economic calculations rather than vice versa".

In this context, are significant alternatives possible? Are less predatory platforms able to develop and constitute either a substantial complement or one of the bases of a new democratic socio-economic model?

III. Alternative Digital platforms confronting olipolistic digitalization

There is a mystery at the heart of the digital economy: the huge success of the open source model, "The open source process of production and innovation seems very unlike what most economists expect." write Lerner & Tirole (2005: 99), the second author, the 2014 Nobel Prize in Economic Science. If in this article the two authors are still looking at this phenomenon through the lenses of "most economists", some others, more intent on developing new open cooperative platforms, are mobilising different frame of references.

Alternative platforms at the convergence of three movements

Three trends, Open Source (or Peer to Peer – Barahona et al., 1999), Cooperativism (Patmore & Balnave, 2018) and Commons (Ostrom,1990), are progressively converging towards a new paradigm. "The concept of open cooperativism has been conceived as an effort to infuse cooperatives with the basic principles of commons-based peer production. Pat Conaty and David Bollier (2014) have called for 'a new sort of synthesis or synergy between the emerging peer production and commons movement on the one hand, and growing, innovative elements of the cooperative and solidarity economy movements on the other' " (Bauwen & Kostakis,

2016:164). And we should add, the research focused on the changes or possible changes in corporate law (Segrestin & Hatchuel, 2012) intended to fight the shareholder value and agency theories that have legitimized, since the '80s, the exclusivity of the property of companies by shareholders as the guiding principle of enterprises in a competition for growing profits.

We can see no contradictions among these three currents attempting to identify or create the conditions for alternative organizations, embodying the values of cooperation, democracy, freedom and justice (Compain et al, 2018). However, the flexibility introduced by the "opening" on a plurality of devices, by the de-bundling of property rights no more considered as a "natural" whole (Orsi, 2013) should not mask the power struggles taking place over legal settings. For example, either profit orientated or not, some pushes toward less rigorous criteria may well put the autonomy and philosophy of Alternative Platforms at risk, even allowing their capture by oligopolistic platforms (Maurel, 2018). But this flexibility can also enable alternative platforms to enter fruitful partnerships with professionals and public institutions. In addition, as digital alternative platforms do not involve a common management of natural resources but that of human produced knowledge, goods and services, the definition of the common project and of the community's boundaries may be difficult. We face here digital commons, often supporting non-digital operations, needing thus a two-level definition of the extension and types of commoners and non-commoners involved. The commoners, members of alternative platforms are anyway faced with multiple choices. The desirable future they aim to reach is quite clear: the sustainability of a responsible project, democracy, the development of individual and collective capabilities (Sen, 2005), innovation and a potential for global transformation with acute attention to the environment's protection. However, the risks they incur are also well known: inefficiency and failure, lack of funding and resources, degeneration of the project and mission drift, formation of an oligarchy (Michels, 1911). Ultimately, their main risk is to remain a non-significant and subordinated part of the economy serving as an alibi to the oligopolistic

platforms. Avoiding those obstacles requires, in our view, the continuous management of questions and contradictions that we will identify in the next section.

Alternative platforms facing multiple choices and contradictions.

The alternative platforms have to select relevant activities, choose, categorize and involve their different kind of stakeholders, organize the collective activities of their different contributors while defining their rights and duties. They also have to ensure an equitable distribution of the co-created value, to build or use the appropriate technologies and databases, to finance investment and operations, and to contribute to developing the scale of the alternative sector. They need to create virtuous partnership and fight for a favourable institutional environment. Last but not least, they have to deal with a complex and sometimes uncooperative human nature, avoiding the many mistakes of numerous collectivist adventures while they build strong communities sharing common practices and values.

In the following section we present the questions and contradictions facing the alternative platforms one by one, recognising that they are usually tightly intertwined.

Selection and creation of relevant activities

We observe that Alternative Platforms (APs) are involved in the whole set of activities covered by the oligopolistic platforms - GAFAM, NATU and BATX - even if the literature often favors, in its analyses of the alternatives, the asset-light economy of knowledge and sharing. Will APs invent original and strong ways of commoning allowing them to attract enough supports for their projects?

APs are involved in the search engine and social media sectors. Thus, Social.coop cooperates with Mastodon, to a decentralized social network based on open protocols and open source software (others, such as Diaspora , Friendica and GNU Social ... could also be mentioned here). Generally, unlike their oligopolistic counterparts, these platforms are not financed by

advertising, which limits their investment capacity. But Lilo[9], a French search engine, which is more like a social business than a cooperative, illustrates the diversity of economic models open to the commons. One of Lilo's key objectives is to solve the problem of CO^2 emissions. Founded in 2015, this platform has reached 30 million searches per month by 2017. Each time a user performs a search on this meta-engine, s/he earns symbolic raindrops that can be converted into money and allocated to a project. Advertising, directly on Lilo or indirectly through the commissions transferred by the search engines whose advertisements it displays, is financing Lilo which returns 50% of its revenues to social and environmental organizations from among which its users can choose. Marc Haussaire, engineer and co-founder of Lilo, explains: "We want to empower internet users by offering a quality alternative to Google." Lilo is not gathering (and selling) the personal data of its users. It is questionable whether these types of business practices, transactions and partnerships are compatible with a truly alternative approach. In any case, it should be noted that nothing precludes them from being taken over by an oligopolistic platform.

Alternative platforms are also present in the ecosystem of platforms as market, those that connect producers or sellers and buyers to offer goods, services and work. While traditional cooperatives in industry, agriculture, banking and insurance are trying to platformize, new initiatives are emerging. Fairmondo, founded in Germany in 2012, is a perfect illustration of the ambition to compete with Amazon (considered only as a market platform and not as a platform offering platforms to its customers - PaaS) and e-Bay. A cooperative owned by its sellers, buyers and workers, Fairmondo promotes responsible consumption and fair trade, or at least community-approved products, provided by professional or private sellers. The German branch of Fairmondo had around 2,000 members in 2018, well below the Amazon customer base. However, the open cooperative movement is mainly involved in the "asset light"

[9] www.lilo.org

economy: Fairbnb, to be launched in 2019, responds to Airbnb and will partner with five major European tourist municipalities, while 50% of the profits will go to the community. The cooperative movement has been concerned since its inception about the role and protection of workers: thus, it is not surprising to observe APs strongly involved in labor markets. Organizing symbolic analysts, the knowledge workers who drive the success of open source, is a natural trend for alternative platforms, but their ambitions go well beyond connecting developers. For example, Loconomics has created a platform that more broadly provides "independent professionals with technology, shared ownership and connections". Smart, born in Belgium in 1998 under the name “Mutuelle pour artistes”, is a particularly interesting example. Smart has become one of the largest cooperative platforms of European workers. Established in 9 countries in 2019, it brought together more than 125,000 independent workers who have already used its services and among them, about 30,000 members. The platform is open to a wide variety of professionals or more largely " independent workers ", faced with the development of precarious and / or multiple jobs, flexibility, lack of social protection (Casilli, 2019), some of who also seek to maintain their autonomy and avoid traditional forms of employee subordination. Artistic and cultural activities can become like Keynes (1930) had anticipated, more central but also more able to "inspire", for better or for worse, the management of other jobs. Of course, if open cooperativism was only concentrated on symbolic analysts, ignoring the less qualified routine or care work, it would remain focused on a world of competitive individuals and leave out all those who do not share the same skills, social and cultural capital and are the main victims of digitalization. In Brussels, Smart had a contract with Deliveroo to provide decent pay and social protection for bikers delivering services. This contract was broken by Deliveroo: the organization of workers able to defend their rights is not encouraged in the " Gig Economy "! Thus, the cooperative platform CoopCycle in France does not seek to establish relations with Deliveroo but to compete directly with them. In the same vein, The

Green Taxis Worker Platform was created in Denver in 2015 to compete with Uber. Organizing and protecting workers, whether or not they adopt an employee status, constitutes a major challenge when “automates and informates” are having an increasing impact on employment. The alternative platforms aim to compete with Amazon Mechanical Turk and its click workers whose tasks are fully decomposed and with Uber (Scholz & Schneider, 2016) which claims to appeal only to independents even though the platform has the power to disconnect the drivers who do not respond to its requests.

Alternative Platforms are not only designing operating systems, software and applications, but also Platforms as a Service (PaaS) that go as far as managing the functions of entire cities (Fuster Morell [ed.], 2018). For example, Sensorica is an open platform with experts in software development, engineers, lawyers, and so on, gathering industrial companies for the design of these much-needed sensors for Industry 4.0. Business coalitions then take over the deployment of such open source solutions, while a hybrid, adaptable for-profit or non-profit organization ensures a fair distribution of co-created value. Farm Hack focuses on agricultural machinery and uses a digital platform where tools are made available under the Creative Commons license. Open Food Network is building a global digital platform to help create or develop better local food systems around the world. Open Food presents itself as a non-profit "holarchy" with autonomous layers at global, national and local levels, benefiting from a common platform. Framasoft is an ambitious French project, whose mission is affirmed primarily as that of popular education, but which also offers multiple applications and alternatives to cloud computing. Although Framasoft, a non - profit organization, is organized around an open platform, this organization only has about 30 members and 8 employees; it benefits from many volunteers, developers, but also people in charge of communication or animation. Framasoft is financed by donations and crowdfunding.

In response to Alibaba's Brain City, but integrated into their community, alternative digital platforms offer to collectively manage a city. Barcelona's digital plan, for example, does not start from technology, but from the needs of citizens. Accordingly, the plan was co-created with different communities, companies, specialized researchers and "makers". Other cities and administrations, in Spain and elsewhere, can adopt and adapt the platform, sensors and actuators developed in Barcelona with an open software and modular logic. This can help them solve urban problems, such as access to affordable housing, energy transition, traffic and transport management, and the facilitation of participatory democracy.

Choice, categorization and commitment of actors of alternative platforms

Who will compose this open community of alternative platforms? The first principle elaborated by Ostrom (1990) focused on precisely defining the boundaries of the committed community of commoners. In one, by definition, bi or multi-face platform (Rochet & Tirole, 2006), where it is important to attract, connect and involve several types of actors, their status have to be specified. Depending on the founders' and common project, users, suppliers (or prosumers) of goods, services or work, donors, employees, volunteers, etc. will either be considered part of the commoners or they will not. The openness of the platform does not preclude these choices. The multitude is, of course, one of the key success factors of digital platforms but "small is beautiful". The last item is even truer when a democratic functioning and the creation of a strong community able to compete with the oligopolistic platforms by adding common values, with very light resource, are major issues.

Organization, definition of rights and duties of contributors and other stakeholders

One of the major problems facing alternative digital platforms is that of a democratic but effective functioning, a satisfactory division and coordination of work. Alternative Platforms usually distrust hierarchy, and self-management often appears as an ideal. Centralization, for example, is often perceived as a great danger to democracy by theorists and practitioners of

open cooperativism alike. They generally prefer a federation of small units, benefiting from more human and material resources and expertise than the headquarters (Jardat, 2012), instead of a classical, highly centralized, divisional form. However, decentralization does not automatically mean empowerment; neither does the absence of any official hierarchical structure. The cooperatives, open or not, are often suspected of not escaping the iron law of oligarchy (Michels, 1911), that is to say, the capture of power and resources by elites. Indeed, Meister (1974) argued that cooperatives do not easily avoid the four-phase life-cycle of power and participation: conquest, economic consolidation, coexistence, and the power of managers. Alternative platforms implement various measures to combat this drift: they can practice, like any private company, horizontal cross-functional mobility to facilitate better organizational integration, and they can also consider a certain downward mobility to avoid the disconnection between the top of the organization and its base; they may, when their members are expert professionals, prefer that different project managers take charge alternatively of different projects. They can conceive counter-powers and a process of joint regulation (Reynaud, 1979) to identify desirable synergies and the means to implement them or to decide on other strategic and operational directions. Discussion and negotiation spaces are encouraged and experienced, informally or formally with specific meetings and contributors working on identified areas of vigilance: strategic (project; stakeholders; legal status, structure and governance; alliance; financing; investments; technological orientations, etc.) or more operational but identity-related decisions (technological priorities; human resources for example recruitment, organization of contributions, status, range and method of remuneration of contributors; communication campaigns, mobilization of communities). The methods of appointing leaders and persons who will assume specific responsibilities require special care. Attention must be drawn to the fact that displayed solidarity values and practices can mask and even facilitate opportunistic (and / or neurotic) behavior and that formal rules, provided they are negotiated and flexible, can also

constitute a bulwark against an oligarchy drift. Alternative platforms are often learning the ways to an effective democracy through the progressive conceptualization of their project, organization and tools. However, failures are frequent when they rely only on the informal and spontaneous. Management, conceived as a tool for piloting organized and finalized collective activity, concerns both alternative platforms and private companies. APs must avoid the double pitfall of inorganization and mimetic implementation of corporate devices presented as "professionalizing" that embody neither their values nor their project (Bernet et al., 2016).

Just distribution of co -created value

In the same vein, we need to return to the very intriguing question, according to Lerner and Tirole (2005), of the free contribution of software developers. Indeed, developers benefit usually from other monetary rewards (employment in traditional companies; consulting to companies, improvement and implementation for them of open source software, etc.) when they engage in this voluntary activity. They may also be motivated to work for free because they are interested in the nature of the task they perform or its product, interested in interactions with other highly skilled developers, in reputation benefits, and in the ability to embody their values in a non-hierarchical work environment (Hars, 2002; Lakhani & Wolf, 2005). Yet, even if these characteristics are found in other volunteers, some of the contributors to a wide variety of digital platforms do not benefit from sources of revenue that allow them to contribute: by working on a voluntary basis or, for users by accepting a higher price, for investors by reducing the return on their investment. The main problem is therefore to conceive collectively fair rules for evaluation and retribution of contributions: a fair price. Who participates in these collective choices and how? this is the problem to solve. For example, in the New Zealand platform, Enspiral (Pazaitis et al., 2017), "A network of professionals work together in teams to offer Enspiral Services, a range of business services under one roof. By default, members pool 20% of their invoices into a collective bucket, 25% of which goes to the Foundation. Loomio and

Cobudget[10]are then used to decide how to spend the rest. For Startup Ventures, Enspiral works with social entrepreneurs to launch start-ups who then support the work of the Foundation, and Enspiral as a whole, through flexible revenue share agreements: ventures choose their own contribution rate, usually around 5% of revenue" (http://stirtoaction.com/open-co-ops-inspiration-legal-structures-and-tools/).This may go well for professionals, with software or various highly skilled specialties. In the worlds of technology and knowledge, the open source model and that of volunteering have proven their competitiveness to the point that even the biggest companies are mobilizing it, that Linux and Wikipedia are considered world successes. However, the lesson to be learned about other types of contributions, concerning less qualified tasks, is that a collective voice is necessary at many levels in the area of retribution. External regulation and the market, as much as organizational internal regulation, are involved in rewarding labor, providing social protection to workers, setting prices and providing income to capital. Mondragon is not a digital platform, but as a cooperative for the production and distribution of goods, this company has faced stiff competition with private companies, sometimes forcing it to abandon principles and values rooted in a very strong Basque culture (Grellier, 2017). If the alternative platforms do not feed on the exploitation of contributors and in particular that of routine workers, if they succeed in building activities that are both meaningful, responsible, developmental, cooperative, and if they allow just retribution and protection, they could well prefigure the answers to be given to the extension of "automates and informates". But we cannot deny that they must act in a context that is unfavorable to them in a situation that may be transitory but undeniably difficult.

Design and / or use of appropriate technologies and data

[10] *Loomio* is an open software created by Enspiral to facilitate collective discussion and decision while Cobudget helps to collective budget conception

For APs, technologies are both a risk and an opportunity. Their technological choices should integrate the other choices and the values of the alternative organization. So, if decentralization is preferred, should not technology be distributed? If these platforms are alternatives aiming to challenge the power of the major oligopolistic platforms, is it not best for them to remain as independent of the latter as possible and use neither their funds nor their infrastructure? If innovation and efficiency are at the heart of their development, should not their software remain open? If their data must be huge and usable, how can they ensure their protection from collection to storage and use artificial intelligence? How can each of these goals be achieved? According to several researchers and practitioners (De Filippi, 2017), blockchain development is one of the most significant alternatives that would make it possible to move toward a distributed paradigm. However, as this technology is only emerging, APs often hesitate between standardization - adoption of existing open-source or private platforms - and originality, with the development of their own platform that respects the principles of interoperability and openness. They sometimes propose a mix of free software and proprietary software at the request of the customers to whom they sell their solutions. In terms of Cloud, storage and processing capacity, APs also often choose hybrid solutions. APs cannot ignore the effects of networks and exist without a multitude of contributors / users / producers, etc., and their data. To ensure their endurance and capacity to provide a useful, easy and attractive service, they will need artificial intelligence.

However, this poses the problem of their practices and their partnerships (which will be discussed below): if their size and activity do not allow them to attract enough interested and interesting actors, they can share their infrastructure, the data collected and treated and sometimes their activities with other complementary platforms since this operation serves the goals of their communities. In this context, data contributors, accept that their data are collected, processed and shared under certain conditions defined classically by law (RGPD) and by

binding and protective charters, such as for example, those produced by OpenAI (https://openai.com) and displayed on its website. But what will be the possibilities for alternative platforms to invest in Artificial Intelligence? In 2015, Musk, Altman and other investors launched OpenAI, investing more than $US1 billion in this non-profit organization, but as we will see later, this was not enough

Financing investments and operation

The business model of many alternative platforms open / cooperatives combines the voluntary work done on a voluntary basis, the payment of shares by the cooperators, donations, crowdfunding campaigns (usually based on grants, not loans and equity investments), and finally revenues from the platform's activity. Neither capital nor income is usually sufficient to allow a change of scale. If the illusion remains strong that building, promoting, developing a digital platform and offering a quality service to the different contributors is not very expensive, it is indeed an illusion (Scholz, 2016). On the basis of the experience of non-profit organizations, this is not true even if the costs have fallen massively thanks, in particular, to free software. The infrastructure of the platforms, in terms of data storage, computing capacity and algorithm production continues to require very significant funding. “One downside is that we have a special challenge in raising sufficient scaling capital (which would normally be several million Euros for a project like ours)” says Fairmondo's founder[11]. Some activities are more appropriate to cope with this lack of capital, those of the "sharing economy". Sundararajan (2017: 197), using Uber as an example , writes : “Cab drivers, after all, offer a more or less uniform service in an industry with a limited amount of competition. Once the technology associated with 'e-hail' is commoditized, the potential for a worker cooperative appears to be in place, since each local market is contestable".

[11] https://www.tbd.community/en/a/new-cooperatives-fairmondo

Seed capital and growth capital are difficult to obtain for alternative platforms. Which private fund would invest in non-profit activities? Banks, even co - operative and mutual banks, are reluctant to lend to alternative platforms that have difficulty offering sufficient collateral on loans.

In this context, is it possible for alternative platforms to invest in Artificial Intelligence? In 2015, Musk, Altman and other investors launched OpenAI, and invested more than $ 1 billion in this non-profit organization with a noble mission: “Our mission is to ensure that artificial general intelligence benefits all of humanity”[12]. In 2019, they added a layer of limited partnership to this basic non-profit organization in order to raise more funds. As they put it: “We’ll need to invest billions of dollars in upcoming years into large-scale cloud compute, attracting and retaining talented people, and building AI supercomputers.”[13] . Their “ solution is to create OpenAI LP as a hybrid of a for-profit and nonprofit” which they are calling a “capped-profit company.”[14] This hybridization is not only the specificity of very large companies, it even concerns smaller alternative platforms like Mobicoop which in seeking to compete with BlablaCar, apologized to "Uncle Richard Stallman (the creator of GNU) " for developing a mix of free software and proprietary software to sell its platform to businesses and local communities.

Scaling up: successful partnerships, dangerous liaisons and a favorable environment

Beyond perpetuation without degeneration of the project, the change of scale is indeed one of the essential problems that alternative platforms try to solve both at an individual level and as a global movement with a socially transformative purpose.

Cooperative principles include cooperation between cooperatives. In relation to the governing of the commons, Ostrom (1992) observes and proposes a multi-layer organization of nested

[12] https://openai.com/about/
[13] https://openai.com/blog/openai-lp/
[14] ibid

companies. However, the paths of "glocalization", which combine the forces of small size, differentiation and autonomy with those of globalization, are not easy to design. It must nevertheless be recognized that this is one of the main opportunities offered by the Internet and digitalization. An opportunity that must be seized vigorously. In this context (re) mobilizing co-operative banks and mutual insurance companies and possibly offering them support for platformization, could be explored. In any case, several organizations exist that try to create synergies between alternative platforms.

Scaling up can involve hybridization. Yet the question then is, which partnerships should be favored? Those who involve both independent professionals and reasonably sized firms, making up the local or expertise fabric of APs, seem sound as long as they rely on legal forms that guarantee against private capture in the short or long term of the value co-produced. What about partnerships with predatory platforms in search of good reputation and, more broadly, funding from multinational foundations or social impact funds? The least we can say is that these are often dangerous liaisons that are debated even if they can in the short term help overcoming the obstacles of underfunding.

To scale up, the partnership with local communities seems more promising. Earlier we referred to the case of Barcelona. Vidal and Fuster Morel (2018) distinguish four approaches by cities: the city as monitor analyzes the most disruptive practices, mostly those concerning the tourist habitat (Airbnb), transport (Uber) and work ("independent " work, Amazon Turk and click workers); the city as regulator tries to limit, within the powers it has, the nuisance caused by the irruption of oligopolistic platforms (for example, by fiscal requalification of a kind of tourist housing which contributes to the rise of the rents for the local residents and which hurt local hotels or by modifications of the status of self-employed workers); the city as a promoter acts directly to provide those services especially in transport through the organization of carpooling, through the design of public platforms or indirectly through incentives or infrastructure favoring

non-predatory platforms. And, the city as a partner of alternative platforms can provide citizens with better services from citizens by promoting social inclusion and respect for the environment.

However, beyond this intervention of municipalities or even other public bodies, the change of scale implies a much more favorable legislative environment. The regulation of oligopolistic platforms that tries to establish a fair competition through anti-trust measures, protecting consumers, through defense against tax evasion, a very strong exploitation of labor, the invasion of privacy, fake news, calls for hatred ... is difficult to implement due to a lack of consensus between states that often prefer to play commercial, social and fiscal competition. Anyway, regulation would not be enough. Actions in favor of alternatives and that of their growth are needed to develop a democratic digitization.

For example, facilitating loans to alternative platforms, incentives for local goods and energy production, but more so a decent universal income coupled with better funding of public services would accompany the development of automates and the infomates and accelerate the ecological transition. The adoption of such options that would facilitate greater citizen involvement in alternative platforms, cannot take place without a massive redistribution policy. But these goals will not be achieved without intense political struggles leading to a post-capitalist or a new model of capitalism. Some authors see the movment as a bottom-up and progressive process that allows the co-ordination of many specific and / or local communities, sometimes with innovative participatory platforms boosting citizen participation, and reaching progressively a global level. These authors analyze the future role of decentralized States as servicing (supporting) the commons and federations of commons but continuing to enact arbitration functions for the defense of the general interest (Dardot & Laval, 2015). Other researchers are more attached to the mixture of a direct political action and combatting neo-liberal parties, with local and / or specialized projects, of centralized and decentralized actions.

They propose following the example provided by Hayek and the long-term ideological strategy of Mont Pelerin Society to establish a post capitalist regime (Srnicek & Williams, 2015) .

Non- cooperative behavior

Democratic inclusion can be a claimed and shared value, but observable practices are sometimes very different. Even in cooperative contexts, complex human behaviors play for better and for worse. "Classical" economists themselves begin to recognize the need for interdisciplinary research to overcome the fallacious simplification of Homo economicus (Tirole, 2018). After studying three US co-operative platforms for five years, with a group of doctoral students and using ethnographic methods and interviews, Schor (2017: 39-40) presents troubling results: "all three cases are plagued with status-seeking, subtle forms of social exclusion, and non-egalitarian behavior that threatened the core goals of founders and members. They are also all highly racialized sites in which nearly all participants are white. And they are characterized by gender skews as well". The problem posed by this type of behavior is likely to be amplified by the growth of the platforms if it destroys personalized communities, whether virtual or local, and does not allow a common trust and culture to develop. Also witnessing these uncooperative behaviors, are the mishaps of the FLOK (Free-Libre Open Knowledge) team in Ecuador where in 2013, Michel Bauwens at the invitation of the left government, chaired a team composed of international experts, academics, hackers, lawyers, community leaders, business leaders, etc. They aimed to define the legal, economic and social frameworks that would enable the development of a successful productive model based on common knowledge, which could be integrated into the "Good living "society projected by the Ecuadorian government[15]. Michel Bauwens and his team hoped, through this approach, to provide a coherent framework for the many dispersed and fragmented initiatives, in Peer to

[15] www.floksociety.org

Peer or taking the form of multiple alternative platforms etc. However, the initiative failed as a result of conflicts within the government, between the government, the civil society and the research team itself.

From Plautus to Freud and his followers, from philosophers to psychologists, from the reaffirmation of "Man is neither angel nor beast, and unhappily whoever wants to act the angel, acts the beast" (Pascal), our attention is drawn to the extreme complexity of humans, of their impulses and their process of socialization. The illusion of a system that would erase the internal / external conflicts of humans would undoubtedly constitute a dangerous utopia.

Conclusion

On the basis of our literature review, this paper explored the disruptive nature of digitalization and the oligopolistic digital platforms that embody it, as well as the promises and difficulties of emergent open cooperative platforms. Before analysing the main questions raised by those platforms, we first proposed a brief analysis of the digitalization process as a socio-technical mutation, of its risks and opportunities through four prospective scenarios: The chaos, the totalitarian digitalization, the oligopolistic digitalization and the more desirable future of a democratic digitalization allowing humans to express their inimitable genius of cooperating in order to care, create and govern collectively. We then built a typology of the oligopolistic platforms at the heart of the present phase of digitalization that cooperative/open platforms aim to supplant or at least to challenge. We distinguished three kinds of platforms: the search and social media platforms, the marketplace platforms (including the ones selling labour or skills and the assets-light ones), the Platforms as a Service. We observed that the strength of oligopolist platforms resides in the convergence of their Business Models, in the capital they are able to attract, their huge acquisitions and investments, and in the alliances they have and are building. The gamble made by investors on the role of big data, network effects, and "winner takes all" allows oligopolist platforms to create new global enclosures. We argued that

oligopolist platforms can hardly be regulated by a non-existent global democracy, therefore preventing the adoption of solutions that could contribute to a sustainable and capabilities-oriented development. However, as noted, a mystery exists at the core of the dangerous success of platformization: it depends not only upon classical factors or only upon a new capture and treatment of big data and subordinate jobs but also upon a free contribution of "symbolic workers" that cannot be ignored. Could the combination of this new open source movement, with the principles developed for successful commons and those of the older cooperatives still offer an alternative? The obstacles are huge, and the questions raised much more abundant than the answers brought by theory and/or experimentation. The development of alternative platforms thus questions modes of: distribution of the bundles of rights and Governance; Centralization and decentralization; Autonomy and synergy; Choice of activities; Growth; Differentiation, standardization, convergence and hybridization; Localisation, globalisation and glocalisation; Fair pricing; Organization of work, protection of workers and more largely citizen; Inclusion and exclusion of stakeholders; Funding; Relationship to the State and private or public entities … among other, often combined, dimensions. Most importantly, alternative platform development also raises questions about the capacity for cooperation of a highly socialised human nature. While the necessity of competition is usually supported by an overly pessimistic point of view, the project of cooperation is, in turn, often linked to a naïve optimism about human nature and its aptitude for change. The "new" open/cooperative platforms are for the moment only emergent, and the old cooperatives have remained a "third sector" of the economy. If communalist cooperativism has achieved some success, the full-scale national deployment of a commoners' initiative in Ecuador did not fulfil all the hopes that activists and researchers alike had placed in it. Digitalization does not, we think, expand only on knowledge. It needs a lot of capital and very tangible resources to grow. We believe that the attention attracted by the early business models adopted by Google or Facebook and by Amazon's initial

"intermediating only" model, masks other much more capital-intensive ventures with which the open cooperative platforms cannot compete effectively. In addition, the latter may lose other short and middle-term "competitive advantages" when refusing to exploit producers, consumers, other stakeholders and their data and avoid taxes or deplete natural resources. Will their collective and individual capability building intent be strong and visible enough to mobilize massive support when response to perceived dangers consists so often in scapegoating? Will they invent original and strong ways of commoning allowing them to attract enough supports for their projects? These remain most critical questions!

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