Rethinking policies
of urban and rural development
during a period of metropolization and platformization

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Abstract:
Urban and rural planning in France has belatedly taken into account digital technology as a means for shaping territorial units. Besides its difficulty with broadening its focus beyond infrastructures, this policy area must now cope with two trends toward concentration — metropolitanization and platformization — that overlap during the planetary competition between "territories". The policies centered around big urban centers (for decentralization and for making them more attractive internationally) have widened an already deep fracture. The wealth and new uses stemming from the digital transformation are clustered around big urban areas. The "complexification" of local access to digital technology leads us to imagine a geographically oriented policy for developing this technology that would reach beyond the mere question of infrastructures and inquire into the concept of a universal service.

Will digital technology re-enchant the "local"?

Since their origin, French territorial planning policies have been based on technological innovation.[1] They have but recently started taking digital technology into account.[2] Digital technology has thus come to be seen as a lever for geographically redesigning the country, whether for improving the connectivity for information and communications technology (ICT), or by using data to redefine administrative subdivisions and land uses.

In addition to this territorial policy, a policy of innovation has led to setting up technoparks: "technopoles" in the 1980s (OURAL *et al*. 2018) and "poles of competitiveness" since 2004.[3] The number of these "technology clusters" has increased: there are now more than 53 poles of competitiveness.[4] Forty years afterwards, it is still hard to evaluate the effects of this policy on the development of administrative subdivisions in the country, or even on the equilibrium between these territorial units given that some of these poles are concentrated in big urban areas. Official labels have been attributed to these poles, such as "French Tech", created in 2014.[5] This accreditation fits into a trend that is concentrating innovation in metropolitan areas.

So, the re-enchantment of the national territory promised by high tech tends to mainly affect large urban areas. Policies for decentralization and for making local areas more attractive internationally have been focused on these urban poles, thus worsening the country's already deep geographical divide. The last "Digital Barometer Survey" has shed light on the geographical gaps in the deployment of digital technology and connectivity (CREDOC 2019). The French ombudsman

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[1] This article, including any quotations from French sources, has been translated from French by Noal Mellott (Omaha Beach, France). The translation into English has, with the editor's approval, completed a few bibliographical references. All websites were consulted in February 2021.

[2] Since 2002 in the *schémas de services collectifs*: https://fr.wikipedia.org/wiki/Schéma_de_services_collectifs.

[3] Budget act for 2005, n°2004-1484 of 30 December 2004 NOR: ECOX0400222L. Texts of French laws and decrees, as well as many court decisions, are available at https://www.legifrance.gouv.fr/Droit-francais.

[4] As compared with 71 at the start of the 2010s. *Cf.*: https://competitivite.gouv.fr/les-55-poles-255.html

[5] https://lafrenchtech.com/fr/

recently issued a warning about the disparities observed in communes with a population of less than one thousand inhabitants. In these zones which represent 75% of all communes and 15% of the nation's population, more than a third of the inhabitants do not have quality connections to the Internet (DÉFENSEUR DES DROITS 2019). A combination of metropolitanization with platformization is reinforcing concentration (ARTIOLI 2018, DESPONDS & NAPPI-CHOULET 2018).

The wealth and new uses stemming from digital technology are polarized in big metropolitan areas. In his report on "smart cities", L. Belot (2017) wrote, "*The administrative subdivision [of the territory] risks creating white spots and areas where new services overlap for want of consultations at the appropriate level.*" As a response, this MP has suggested that the areas pushed aside by the digital transition "*could benefit from the experience and strategies in adjacent, more technologically advanced areas. In other words, we could start by deploying smart cities and then switch to smart territories, regardless of their size.*" At a time of a "reconcentration" resulting from the combined trends of metropolitanization and platformization, this approach does not, however, seem capable of developing these communes. This dichotomous viewpoint tends to overlook the fact that a smart city will depend on the surrounding territory, for supplying it with people, resources and energy.

How can we keep policies for installing new forms of digital technology from allotting these left-behind communes the fate of being the hinterland of metropolitan areas? It is urgent to reconsider this urban divide from a "*peripheral France*" (GUILLUY 2014). This gap is widening as sights shift toward international competition. These strong social tensions, sharpened during the pandemic, are but the prelude, if rapid action is not undertaken, to a major political crisis for democracy.

Metropolitan areas, platforms of the physical world

Concentration in geographical and digital space

The end of the 20th century and the start of the 21st have been marked by the trend toward a twofold concentration in geographical and digital space. While metropolitanization is familiar, platformization is a more recent phenomenon (CASILLI & POSADA 2019, NIEBORG & POELL 2018, HELMOND 2015).

What characterizes METROPOLITANIZATION is the increasing concentration of persons, activities and wealth in cities of an ever bigger size (GHORRA-GOBIN 2015). Urban areas thus have to be redesigned. The leisure activities, businesses and industries that need large spaces are being sent to the periphery, while the urban center is reserved for housing and activities that yield a high value. Metropolitanization is at the origin of spatial and social "fractures" within the urban area and, too, between it and the peripheral areas under its sway. The status of metropolis, instituted in 2010 in France, was bolstered in 2014 and again in 2015 through the so-called NOTRe Act for a "*new territorial organization of the Republic*". This act recognizes 21 metropolises in France.[6]

With different strategies about taxes, real estate and so forth, each metropolitan area is trying to spike its growth by attracting economic activities (such as corporate headquarters or research centers) with, as a consequence, fierce competition with each other (THISSE & VAN YPERSELE 1999, ALDERSON & BECKFIELD 2004). Nonetheless, French metropolises are nothing more than regional players on the global scale. Globalization has fueled competition between metropolitan areas worldwide, and is reinforcing those of a "global" size where, year after year, more resources are being concentrated.

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[6] https://fr.wikipedia.org/wiki/Loi_portant_nouvelle_organisation_territoriale_de_la_R%C3%A9publique

PLATFORMIZATION refers to a concentration of transactions and interactions on a limited number of online platforms. The latter are absorbing a larger proportion of exchanges and of people's attention and, as a consequence, of wealth in the digital economy. Platformization signals a transformation of the Web, which was historically decentralized. An online platform exercises governance over exchanges by determining who may open an account, their role and interactions on the platform and by deciding how differences will be settled via the protocols and technological standards that facilitate connections, coordination and/or collaboration between persons in this ecosystem (RENAISSANCE NUMÉRIQUE 2020).

Online platforms have sprung up on many markets for several purposes (research, advertising, retail business, labor, meeting sites, etc.). One of their characteristics is that they profit from network effects, which spawn powerful oligopolies (RENAISSANCE NUMÉRIQUE 2015a). Four platforms divide the online advertising market: Facebook, Google, Amazon and Microsoft. Their total share of the market is 72% in the United States, where Facebook and Google account for 61% of the market — compared with 75% for these two in France.[7] By systematically use algorithms to manage both sides of the market, supply as well as demand, platforms represent a new form of organization set up in between firms and their markets (GUYER 2016). The development and domination of platforms are evidence of changes in society and capitalism (VAN DIJCK *et al.* 2018, SRNICEK 2016).

Like metropolitanization, platforms concentrate wealth (human, financial, cognitive and social). These two phenomena, which have developed in parallel, are now mixing with, and reinforcing, each other (MARCHAND & TRINK 2016).

A combination of trends, a worldwide dynamics

Metropolitanization and platformization: Synchronous and self-sustained

The digital transition is fueled by two phenomena: networking and datafication (CASTELLS 2001, SADOWSKI 2019). In geographical space, these two correspond to two issues: connectivity and big data for improving the management and, ultimately, the attractiveness of territorial units. Metropolises have latched onto these issues through their "smart city" policies. According to the European, Commission,[8] a smart city is a city where digital technology serves to make traditional services and networks (transportation, utilities, etc.) more efficient to the benefit of inhabitants and firms. However this concept means more than simply using digital technology to manage resources better and reduce greenhouse gases. It also refers to a more open, participatory urban administration thanks, in particular, to open public data (CHRÉTIEN & ISAAC 2018). Metropolises have thus gradually introduced algorithms in their management and are drawing closer to the logic of platforms.

After all, digital technology enhances the attractiveness of a metropolitan area insofar as several platforms (Uber, Deliveroo, Citymapper) do nearly all their business there (ROZENBLAT & PUMAIN 2006). The activities of the likes of Amazon, Airbnb or Waze increase the flows of people and merchandise that the smart city has to manage. Beyond their business services, which reshape urban space, platforms are directly represented through the facilities and research centers they have installed in global metropolitan areas. For instance, Microsoft, Facebook, Huawei, Google, Amazon and Uber have opened research centers in Paris to profit from the quality of research there. The digitization of these global cities, the platformization that develops there and, too, state policies in favor of innovation all enhance the attractiveness of these metropolitan areas. For instance, the French government's policy for boosting startups (French Tech),[5] which relies on local financial networks and universities, has mainly been implemented in Paris and a few regional metropolises. In the now global competition between London, Berlin and Paris in Europe, this policy seeks to attract the best startups to France, especially Paris.[9]

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[7] Source: eMarketer.

[8] https://ec.europa.eu/info/eu-regional-and-urban-development/topics/cities-and-urban-development/city-initiatives/smart-cities_en

[9] This policy relies on financial networks and universities in these urban areas. https://www.startupblink.com/?leaderboards

<u>Global competition, the quest to attract and the deepening digital divide</u>

This digital transformation of metropolitan areas has intensely heightened contrasts with the rest of the country. In some cases, digital technology has even erected borders (invisible but quite real) that affect the flow of vehicles or merchandise. The urban tollgates that control entry to cities such as London, Rome or Milan (to mention but a few) are evidence of this, as is the emergence of urban distribution centers that regulate the flow of freight (ISAAC 2019). In fact, digital technology with its virtual barriers amounts to a re-erection of tollgates, which deepen the gap between the metropolis and its surrounding territory.

The Yellow Vest movement in France, partly instigated in response to digital technology, is evidence that the population who works in metropolitan areas has been pushed to reside ever farther outside. These surrounding areas tend to be a sort of "back office" for the metropolis. Though "connected" to the city center, they have a restricted access to the resources there. The geographical and digital divides thus sustain each other.

The platformization of these outlying areas strongly increases the might of the metropolis, whence questions about the design of the government's "territorial" polices. Will increasing the connectivity of these areas suffice to bridge this widening gap?

New questions for public policies about "territorial development"

The priority given to the ICT infrastructure

Since the late 1990s, the European Union has considered digital technology to be a "universal service".[10] In France, public policy gave priority to the communications infrastructure, until the creation in 2015 of the Agence du Numérique, which added digital literacy to its list of assignments.[11] However the concept of a universal service (covering digital literacy) still does not exist as such.

The ICT infrastructure was a priority in plans for rural and urban development as of 2002[2] and in the LCEN Act of 2004, which significantly expanded the competence of local authorities (who may set up networks as a public initiative: RIP). As for the infrastructure for a high-speed Internet, France's departments have to fund its development, whereas metropolitan areas benefit from the investments to be made by Internet service-providers. The THD plan for "very high data rates" (postponed many a time since its adoption in 2015) is a reiteration of the same policy with its focus on equipment for dense zones and major axes. This choice aggravates the already considerable digital divide and is an obstacle to plans for an equal, balanced development of territorial subdivisions. This difference in the access to high-speed networks is a major concern for local populations and economies, especially in rural areas, and for farmers, whose activities are increasingly undergoing digitization (RENAISSANCE NUMÉRIQUE 2015b).

While this THD plan has not made the access to electronic networks any less equal in terms of geography, the rollout of 5G for mobile telephones will likely widen the digital divide. Since 5G bears major innovations for the economy (connected vehicles, health, farming, industry 4.0), its deployment has to be analyzed not just in terms of coverage of the population. Meanwhile, more and more protests against 5G are taking place, as evidenced by the frequency of actions with criminal intent committed against 5G installations, in particular the sabotage of antenna towers.[12]

The increasing complexity of the issues related to the access of local areas to digital technology leads us to imagine a policy of digital development that would look beyond issues related to the infrastructure.

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[10] When it opened ICT with EU Directive 95/62/EC of the European Parliament and of the Council of 13 December 1995 on the application of open network provision (ONP) to voice telephony, available at https://eur-lex.europa.eu/eli/dir/1995/62/oj.

[11] https://fr.wikipedia.org/wiki/Agence_du_numérique#cite_note-

[12] http://www.leparisien.fr/faits-divers/renouer-avec-l-action-directe-enquete-sur-ces-sabotages-attribues-a-l-ultragauche-03-05-2020-8310015.php

Beyond the issue of connectivity

New forms of digital vulnerability

The combination of metropolitanization and platformization is widening the digital divide in other respects, such as digital literacy. Although nearly all the population has now adopted the Internet, uses vary significantly as a function of geographical location and, too, between socioeconomic categories in administrative subdivisions. A cogent example is computers: for the less fortunate in rural areas, the Internet is usually "tactile" (PASQUIER 2018). During the pandemic, when we relied on the Internet for schooling and other everyday uses, the questions of how households are equipped with digital technology and how they use it have become crucial.

These differences worsen digital vulnerability in our society. The "dematerialization" of public services is a major factor of "social exclusion", especially of those persons who are no longer used to e-mail programs with their complicated interfaces (DÉFENSEUR DES DROITS 2019). These disparities tend to become rougher as the issues related to digital technology become more complex. The "digital education" of local elected officials is often wanting. Despite legal obligations, their training (not only about digital technology) varies widely depending on the sort of administrative subdivision. In cities with more than 100,000 inhabitants, the expenditure on training amounts to about €376/year/elected official, compared with less than €9 in towns with fewer than 2000 inhabitants (ACAR *et al*. 2020).

National plans with limited effects

Policies about digital technology used to be shackled within plans for the economy and industry. Not until a recent date was a policy of "digital inclusion" launched. In 2015 — nearly ten years after the creation of Facebook — the Agence du Numérique came into being (out of an idea that dated back to 2009). This digital technology agency is in charge of three public policies in cooperation with local ecosystems: the previously mentioned Plan France Très Haut Débit (THD), the Mission Société Numérique and the French Tech Initiative. Since January 2020, the Agence du Numérique has been incorporated in the new National Agency of Territorial Cohesion (ANCT: Agence Nationale de la Cohésion des Territoires). Even though the creation of the Digital Society Mission signaled a policy shift toward the uses of digital technology, investments (political and financial) were concentrated on the THD Plan.

The "digital mediation network" lies at the core of this policy of "digital inclusion", but the hard work of implementing it has fallen on a few civil servants at the national level. The educational application #APTIC was recently rolled out in order to increase the visibility of these mediation procedures in departments.[13] Nevertheless, this policy is advancing in tune with the means allocated to it. In 2019, one million "digital passes" were delivered; and help was provided to 200,000 persons experiencing problems with digital technology. I might point out that thirteen million people in the country have little experience with digital technology. According to the definition of the Mission Société Numérique, they seldom use, or do not use, the Internet, and feel uncomfortable when using it.[14] It is much too soon to evaluate this new agency with its assignment to target "*on the one hand, the local areas characterized by geographical conditions, by demographic, economic, social or environmental difficulties, or by problems of access to public services […] and, on the other hand, innovative projects*".[15]

While the THD Plan is still the focus of attention at the national level and by local officials, its implications for digital literacy are not very clear. This literacy is linked to another public policy (education), which has not yet worked out a solid approach to digital technology. Despite big ambitions — the former minister of Education talked about a "*global digital strategy*" to "*make*

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[13] https://www.aptic.fr/lancement-officiel-du-deploiement-national-de-aptic-par-e-macron-president-de-la-republique/

[14] https://societenumerique.gouv.fr/pass-numerique/

[15] Act n°2019-753 of 22 July 2019 on creating the Agence Nationale de la Cohésion des Territoires.

schools enter the 21st century"[16] — successive plans for introducing digital technology in the education of the very young have hardly yielded results. The difficult switch to online courses during the pandemic (a difficulty experienced by teachers, pupils and parents) has exposed the distance between schools and digital technology. The issue of digital literacy has been reduced to a few courses on the media that are sporadically dispensed by participants from outside the school system. The reform of secondary schools for the 2020-2021 academic year tends to narrow the focus on digital technology to its scientific and technological aspects, thus, in practice, dismissing the aspects that could enable future citizens to function with ease in our digital society.[17]

Conclusion: The need for a "universal digital service"

The pandemic has drawn attention to the digital divide in our society, revealing that it is an abyss. Digital technology is already an essential part of our society, but it will be even more so in the society that emerges out of the pandemic. The platformization of metropolises is likely to increase. As we increasingly use online services, how to see to a balance between the country's administrative subdivisions? The pandemic has exposed differences in terms not just of access, connectivity and equipment but, too, of digital literacy. In the French Republic, we cannot imagine that this inequality persists lest it set off a deep political crisis. A "universal service" in digital technology must be recognized beyond the problems having to do with the access to ICT (FRÉMONT-VANACORE 2004, MORISET 2010).[18] In other words, we have to invest as much in "digital mediation" and digital education as in geographical coverage.

Public policy for the digital development of administrative subdivisions in France has to be interwoven with two other national policies: education and training. According to the *Digital Economy and Society Index*, France ranks 14th — below the average in Europe — in digital skills (EUROPEAN COMMISSION 2019). This policy cannot, therefore, rely on a decentralized approach alone. It calls for an ambitious national strategy that opens toward local responses in coordination with geographical ecosystems. Since platformization is a scalable model, this policy will also have to provide for a robust, open assessment of its actions, given how difficult it is to measure the impact of the policies of "digital inclusion" that have been conducted till now.

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[16] BATTAGLIAM. (2012) "Vincent Peillon lance sa 'stratégie numérique'", *Le Monde*; 13 December, available at https://www.lemonde.fr/ecole-primaire-et-secondaire/article/2012/12/13/vincent-peillon-lance-sa-strategie-numerique_1806198_1473688.html

[17] https://www.nextinpact.com/brief/le-numerique-dans-les-nouveaux-programmes-du-lycee-7444.htm

[18] https://www.arcep.fr/la-regulation/grands-dossiers-reseaux-fixes/le-service-universel-des-communications-electroniques.html

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