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# *Administrative Law Facing Digital Challenges**

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**ABSTRACT The article suggests some exploratory ideas on the implications that the enormous acceleration of digital technology has in administrative law. This is without any pretension of exhaustiveness, which would be a mistaken claim, but with the aim of providing and sharing some clues for the analysis of a complex phenomenon that is still difficult to understand. The article offers some general reflections on the digitization of public action and a summary of the already perceptible implications and consequences that this phenomenon has in administrative law. Finally, some hypotheses are proposed on various sensitive issues that are being raised or may be raised.**

## 1. *Digitization phenomenon of public policy*

As all activities that have an impact on society, administrative action is now deeply influenced by the digitization process. While it is common to evoke historical evolution of this phenomenon, it would be much less obvious to specify the impact that this process has in terms of administrative law.

In a general way, the effects of digitization on public action can be summarized in a growing presence of data and algorithms, a deeper and deeper digitization of the administrative proceedings and other so-called macro effects.

### 1.1. *The increasing presence of data and algorithms*

Data are becoming the essential fuel for all activities that have an impact on society, economic or otherwise. This is the phenomenon known as big data, through which the main institutions orient their development by identifying objectives more precisely, so as to make the decisions to be taken more informed.

Establishing its own action on large amounts of data is nothing new for administrations. States, like local institutions, have for years Accumulated information of different kinds: fiscal, social. And administrations have long known how to use this data to make decisions.

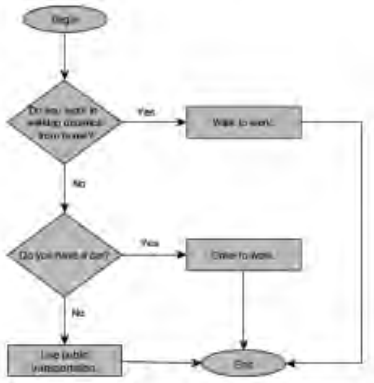
What are the novelties of the contemporary era?

Firstly, the accumulation of data is constantly increasing, both in the public and private sectors. According to a well-known estimate, 2.5 billion bytes of data are processed every day and 90% of the world's existing data is generated in the last two years alone[1].

Large amounts of data available to institutions, both public and private, are converted into decisions through the use of algorithms.

According to Wikipedia, to quote a widespread and immediately understandable definition, "an algorithm is a procedure that solves a given problem through a limited number of elementary, clear and unambiguous steps within a reasonable time [...]. The algorithm is a fundamental concept of computer science, first of all because it is at the base of the theoretical notion of calculable: a problem is calculable when it is solvable through an algorithm".

The algorithm is a series of logical instructions, addressed to a computer. In the picture below is a simple example of an algorithm, available on the internet, aimed at advising someone on the best way to work from home, regardless of distance and car ownership.



In modern times algorithmic processing has an original development and refinement, for several reasons that are summarized below.

Two essential factors are combined. On the one hand, public institutions, like private companies, realise that to process large amounts of data and to make decisions, traditional decision-making dynamics, which do not take into account the complexity of reality, are no longer sufficient. Algorithms are a way to handle this complexity. On the other hand, it seems that

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[1] S. Chignard and L.D. Benyayer, *Datanotics*, Roubaix, Editions Fyp, 2015, 17.

the increasing complexity of our societies makes it very difficult to use the traditional categories through which institutions attempt to measure and act.

In this regard, Dominique Cardon has stated that since the 1980s there has been a 'crisis of statistical regularity that ordered a stable system of categories that maintained links of independence'[2].

This makes calculations a more effective tool for the treatment of mountains of data and to link them to a particular person or a particular situation. And all this as quickly as possible, considering that in the digital and internet age, real time often imposes its law.

The operation is done according to a certain logic, which is specific for the use of algorithms.

The algorithmic logic is quite peculiar. Its essential characteristic is summed up in the formula of two authors who, when asked 'when will the big data revolution have its full impact?' they reply: 'When society realizes that it must curb its obsession with causality and rely on simple correlations. It is no longer a question of why, just about what?'[3].

In fact, a frequent feature of contemporary algorithms is that they do not operate according to a causal and deterministic logic, but according to a logic of statistical correlations and a probabilistic logic.

As Dominique Cardon explained, in their execution "statistical correlations no longer pass from cause to consequence, but from consequences to probable causes"[4].

This normal functioning of algorithms is far from the causal reasoning on which decisions of private and public institutions are based.

Use of algorithms is spreading in different fields of public action. It has been introduced in the fight against crime: the city of Chicago uses an algorithm - based in part on secret data - which makes it possible to identify 400 of the people most prone to commit acts of violence.

The algorithm appears in other areas of safety, such as protection against industrial risks or prevention of child abuse[5].

Election candidates also often use algorithms to identify the audience most receptive to different messages. Apparently, the public sphere is still a little behind the private sector. But a change will soon happen, as public institutions are sitting on real mountains of data - the amounts of which can be increased by administrations themselves - and administrations are forced to decide in increasingly complex contexts.

Algorithmic governance can be expected to emerge in a variety of areas where public administration decides in multifactorial contexts and where decision-making criteria are difficult to improve. As is the case with admissions to schools and universities, social services and urban planning.

### 1.2. *Progressive digitization of administrative proceedings*

Increasing digitization of administrative proceedings is linked to the topic mentioned above. The digital transformation of public action is based on the processing of information through the use of information technology. But the treatment has been enriched by interaction with new communication technologies, including those associated with the Internet[6]. In these countries, most administrative procedures are digital.

On the one hand, traditional administrative procedures have been digitalized, as was the case regarding tax procedures. On the other hand, the use of new technologies allows or facilitates the development of new administrative procedures; this phenomenon can be observed in the area of public procurement[7].

### 1.3. *Macro effects*

In addition to the basic phenomena just mentioned, there are broader trends, sometimes barely outlined, but on which we can put forward the following hypotheses.

a) A question to be asked from the outset is to what extent the digital transformation has consequences in the organization of the administration, including in the relations between the levels of territorial administration[8]. In state and local structures there are consequences, as in private companies, by bringing technology

[2] D. Cardon, *A quoi rêvent les algorithmes ? Nos vies à l'heure des big data*, Paris, Le Seuil, 2015, 39.

[3] K. Cukier and V. Mayer-Schönberger, *Big Data. La révolution des données est en marche*, Paris, Robert Laffont, 2014.

[4] D. Cardon, *A qui rêvent les algorithmes ? Nos vies à l'heure des big data*, 39.

[5] E. Grosdhomme-Lulin, *Le service public de demain : des fonctionnaires, des algorithmes*, in *L'Etat en mode start-up*, Y. Algan and T. Cazenave (eds.), Paris, Eyrolles, 2016, 43.

[6] About the Italian case, see G. Carullo, *Gestione, fruizione e diffusione dei dati dell'amministrazione*, Turin, Giappichelli, 2018; about U.S. case, see J. Lubbers, *Electronic administration in the United States*, in *Droit comparé de la procédure administrative/Comparative law of Administrative Procedures*, J.-B. Auby (ed.), Bruxelles, Bruylant, 2018, 821; about the Spanish case: E. Gamero Casado and S. Fernandez Ramos, *Manual Básico de Derecho Administrativo*, Madrid, Tecnos, 2017, 381.

[7] G.M. Racca and C. Yukins (eds.), *Integrity and efficiency in sustainable public contracts*, Bruxelles, Bruylant, 2014; P. C. Adriaanse, F. Van Ommeren, W. De Ouden, and J. Wolswinkel (eds.), *Scarity and the State I, The allocation of Limited Rights by the Administration*, Cambridge, Intersentia, 2016.

[8] S. Civitarese Matteucci and L. Torchia (eds.), *A 150 anni dall'unificazione amministrativa italiana. La tecnificazione*, vol. IV, Firenze, Firenze University Press, 2016.

experts, who are informed scientists and even more *data scientists*, closer to where decisions are taken.

A study confirms this by showing that the digitalization of procedures has changed power relations within different administrations. Leaders have become system integrators and software designers[9].

It remains to be seen whether digitalization has significant consequences for relations between different administrations and in particular for relations between levels of territorial administration. A comparative study does not detect major changes in this regard, although it focuses only on composite states, where it can be imagined that there are fewer effects on the distribution of roles between centre and periphery[10]. It is possible to assume that the main evolutions have not yet occurred.

b) The digital transformation is clearly changing the overall performance of certain public services. The best examples that can be provided are urban transport on the one hand, and energy production and distribution on the other. The digital revolution is profoundly transforming the organization of urban transport, in particular with the emergence of highly fragmented competition, driven by the economy of sharing (i.e. Uber), from the perspective of moving closer and closer to autonomous vehicles.

It is changing the structure of the energy production and distribution system, opening the way more and more easily to local production and regulation systems, facilitating collective and economic management of production and consumption through smart grids.

In fact, the following interpretation could be drawn from this double remark. The digital revolution risks revolutionizing all existing networks; its very logic gives space to networks - starting with the Internet, a network of networks - but, in the new perspective, they will often be placed on a scale distinct from those already existing, either narrower (the energy network of an energy-efficient neighbourhood) or wider (a mobility aid system integrating different modes of transport).

Finally, it is known that these developments affecting large local public services are particularly marked in local communities that have chosen to move into the so-called smart community[11].

Where this choice has been made, the general functioning of the city is affected. Local infrastructure and services not only benefit from increased efficiency powered by new technologies, but are becoming increasingly interconnected in a systemic way[12]. Add to this the fact that, in smart cities, private services increasingly tend to replace or supplement existing public services and citizens can potentially become better informed and more active[13].

### 2. *Consequences already perceptible*

A few decades have passed since the phenomena just mentioned began to influence public action. As a result, a number of problems that have arisen have already been addressed, more or less effectively. What we can highlight today, in this regard, mainly concerns the regulation of public data and those of the administrative procedure. But first elements of an algorithmic administration regulation are also beginning to appear.

#### 2.1. *Emergence and development of public data law*

It is well known that, both in national systems and at European level, data have become the objectives of an already substantial right, marked by a basis of essential principles and using approximately the same types of regulatory guarantee mechanisms[14]. If the focus is on public data[15], then we can say that this new law focuses on the convergence of two movements.

a) The first is the privacy movement. It is necessary to realize that data managed by administrations are often personal data and even sensitive personal data (special categories of data) - because they concern people's political, religious, trade union opinions or their state of health. Tax, police, health, etc. files are full of such data. In modern times, at least in all Western democracies, legislation with another symbolic burden has tried to regulate the activity

[9] M. Bovens and S. Zourdis, *From street level to system level bureaucracies. How ICT is transforming administrative discretion and constitutional control*, in *Public Administration Review*, vol. 62, n. 2, 2002, 174.

[10] E. Argullol i Murgadas and C.I. Velasco Rico (eds.), *Instituciones y competencias en los estados descentralizados*, Illas Balears, Institut d'Estudis Autonomics, 2011, 440

[11] Vv. Aa., *Smart Cities e amministrazione intelligente*, in *Istituzioni del federalismo*, vol. 4, 2015; P.M. Rosa Salva, *Sustainable development and local governments: how the energy transition is influencing public law, changing its borders and enhancing its evolution*, in *Federalismi.it*, vol. 19, 2018.

[12] J.-B. Auby, *Contrats publics et smart Cities*, in *Contrats et marchés publics*, vol. 10, 2017, 24.

[13] A. Townsend, *Smart Cities*, London, Norton & Company, 2013; Chaire Mutations de l'action publique et du droit public - Science Po, *Ville Intelligente, ville démocratique ?*, Paris, Berger-Levrault, 2014.

[14] L. Grynbaum, C. Le Goffic and L. Morlet, *Droit des activitiés numériques*, Paris, Dalloz, 2014; M. Bourgeois, *Droit de la donnée*, Paris, LexisNexis, 2017.

[15] J.-B. Auby and T. Piette-Coudol, *Données publiques*, Paris, LexisNexis, 2017.

of administrations, subjecting the creation of public files of personal data to various controls. Leaders were Germany, Sweden, France, who adopted their first legislation in this field in 1971, 1973, 1978 respectively.

This data protection movement was then quickly translated into the Convention signed on 28 January 1981 within the framework of the Council of Europe, in the light of Article 8 of the European Convention on Human Rights, which protects privacy, while EU law is slow to address these issues.

b) The second movement is in the sense of opening up public data, by virtue of the principle of transparency, which now truly has the nature of universal value under public law[16]. Following an important Swedish historical precedent of 1766, later translated into the Swedish Constitution, the first regulations on access to administrative documents appeared in Finland in 1951, in the United States in 1966, in Norway and Denmark in 1970, in Holland in 1978, in Italy in 1990.

This development has been largely reinforced by European Union law in its scope. This is primarily because the European institutions have imposed on themselves the principle of transparency of their data, hence the inclusion of the principle in the EU Charter of Fundamental Rights. Moreover, as EU law has focused on opening up data held by national administrations, through a series of contributions ranging from the Directive of 7 June 1990 on the freedom of access to environmental information to recent texts of public data, in particular Directive 2003/98/EC[17]. It results from this that public data are today governed by a broad set of rules concerning both the constitution of databases, their management, the protection of citizens' privacy and the opening of data. This is a legal area that is certainly set to flourish, but it already offers a rather impressive panorama.

### 2.2. *Emerging electronic administrative procedure law and algorithmic regulation of administration*

National legislators are increasingly interested in the regulation of new electronic procedures, such as the digitalization of existing procedures. Sometimes they include the corresponding rules in the general rules governing the administrative procedure, sometimes they isolate them in special texts. This is what has been done in Italy, for example, where a Digital Administration Code exists since 2005[18].

There are some basic issues that the legislation must address. First of all, whether citizens can refer the matter to the administration electronically and, secondly, whether or not this route should be compulsory. Spanish legislation, for example, is now following a gradual evolution from the right to contact the administration by digital means to the obligation to do so[19].

Another key issue is the electronic signature and the evidential value of dematerialized documents[20]. European legislation addressed this issue in a directive of 13 December 1999, followed by a Regulation on electronic identification services and trust services for electronic transitions of 23 July 2014. The development of administrative algorithms and their increasing use as a decision-making tool raise problems, some of which are already evident.

From a political and ethical point of view, an important aspect is that algorithms often operate on the basis of standardization of individuals and sometimes do so on partially non-transparent bases. In a way, they are able to largely fabricate our reality and lock us into boxes that leave little room for the right to non-compliance.

All this is aggravated by the fact that the algorithm process can run into errors - of data - but also, and this is undoubtedly more serious, it can have prejudices. It has recently been discovered that a computer system used to distribute students among Parisian high schools has led to a result that is hardly acceptable, namely that in one of the institutions 83% of the grant students have been included.

In a very critical book on algorithmic government[21], an American author, Cathy O'Neil, reports a significant story: after it was discovered that the school system in the city of Washington was of a very low level, it was decided to establish a rigorous system of evaluation of teachers, based on the results of their students and to dismiss teachers who operated below certain standards.

A complex algorithm, kept confidential, was

[16] A. Bianchi and E. Peters (eds.), *Transparency in International Law*, Cambridge, Cambridge University Press, 2013.

[17] Directive 2003/98/EC, Directive on the re-use of public sector information, recently amended by Directive 2019/1024/EU under the heading 'Directive on the opening-up of data and the re-use of data and the re-use of public sector information'.

[18] B. Carotti, *L'amministrazione digitale e la trasparenza amministrativa*, in *Giornale di diritto amministrativo*, vol. 5, 2015, 625.

[19] Gamero Casado and S. Fernandez Ramos, *Manual Básico de Derecho Administrativo*, 381.

[20] F. Advielle and P. Van Herzele, *Le valeur probante des actes et documents matérialisés dans les gestions publiques et leur contrôle*, in *Actualité juridique droit administratif*, 2016, 1977; T. Piette-Coudol, *Le dialogue életronique dans le code des relations entre le public l'administration*, in *Droit administratif*, 2016, 46.

[21] C. O'Neil, *Weapons of Math Destruction. How Big Data Increases Inequality and threatens Democracy*, New York, NY, Crown Publishing Group, 2017.

thus developed by a computer company on behalf of the city. By applying the algorithm, a teacher, who was previously considered excellent, received a very low grade and was fired. And in the end she discovered that she was the victim of prejudice, because the evaluation system had encouraged teachers in previous years to overestimate the performance of their students. Instead, the fired teacher had operated as in the past and the result was that the progress made by her students had been underestimated by the evaluation system.

Desire to regulate the use of algorithms is however beginning to appear in national regulations. For example, in French law, the Law of 7 November 2016 introduced two sets of provisions on algorithmic governance in the Code of relations between the public and the administration (CRPA).

The first, which is the subject of Article L. 311-3-1, states that "any individual decision taken on the basis of an algorithmic elaboration shall require an explicit mention informing the person concerned. The rules defining this processing and the main features of its implementation must be communicated by the administration to the data subject upon request. The rules defining this processing and the main features of its implementation must be communicated by the administration to the data subject making the request".

This text is supplemented by Article R. 311-3-1-2, according to which, in the event of a request for access, the administration must provide in intelligible form: 1 the degree and method of contribution of algorithmic processing to the decision-making process, 2 the data processed and their sources; 3 the processing parameters applied to the data subject's situation and, if applicable, their weighting; 4 the operations carried out by the data processing[22].

The prediction may be questionable, particularly where it does not clearly require the display of the source code. Probably this shortcoming is explained by the willingness to predict the possibility that the administration is not the owner of the algorithm: something that happens when the algorithm was built for the administration by an external company, based on a contract that does not transfer intellectual property rights.

The second set of provisions was introduced in Article L. 312-1-3 of the CRPA and provides that "administrations [...] with the exception of legal persons whose number of staff or employees is below a threshold established by decree, shall publish online the rules defining the main algorithmic treatments used in the performance of their tasks when they are the basis for individual decisions".

A bill is under discussion in the Netherlands to ensure that automatic decisions are only allowed under certain conditions and that they are based on automatic desecration only when the law allows it[23].

French legislation, following the Law of 6 January 1978 on data processing and freedom, contains a provision which, as amended after the European Directive of 24 October 1995, provides that "no decision [...] having legal effect on a person may be taken solely on the basis of automated processing of data intended to establish the profile of the data subject or to evaluate certain personal aspects relating to that individual" (Article 10 of the Law of 6 January 1978).

## 3. *Questions for tomorrow*

We would now like to put forward some ideas about the difficulties that the digital transformation could cause tomorrow in administrative law, understood as probable functional and conceptual changes.

### 3.1. *Some probable functional mutations*

It can be argued that the digital transformation could bring three types of developments in administrative law and public administration: potential effects on the judicial control of the administration, on the daily relations between the administration and citizens and on the distribution of roles between public and private actors.

#### 3.1.1. *Effects on judicial review by the administration*

a) It is quite clear that judicial review of administrative decisions on the basis of algorithms will not be easy[24]. Not only will judges generally not be better at understanding algorithms than the average citizen, but there is a risk that the techniques usually used to syndicate the motivation of administrative acts and the relationship between them and their motivation could lose their current effectiveness.

These techniques - the proportionality check, the manifest error of appreciation, etc. - are not the same as those used in the past. - are set on

[22] In Italian law, jurisprudence begun to impose the communication of the algorithms used in administrative procedures: in particular, TAR Lazio, in a ruling of 14 February 2017, requested the communication of an algorithm that manages the software related to interprovincial transfers of teaching staff.

[23] Please refer to https://marliesvaneck.wordpress.com/2017/01/31/algorithms-in-public-administration/.

[24] J.-B. Auby, *Contrôle de la puissance publique et gouvernance par algorithme*, in *Le droit public face au défi des technologies de l'information et de la communication, au-delà de la protection des données*, D.U. Galetta and J. Ziller (eds.), Baden-Baden, Nomos, 2018.

classical models of causal rationality. They may have a limited impact on motivations based on statistical correlations, as in many algorithms. This question immediately suggests another, namely whether the judges will be willing to admit direct remedies against the same algorithms. Many doubts have always accompanied the justifiability of circulars, directives, acts of guidance, etc.

The judges have given variable answers, generally focusing both on the possibility of direct actions, where such acts had a sufficiently normative content, and on the possibility of challenging them indirectly in appeals against subsequent individual decisions.

But it must be understood that, in the different hypotheses offered by these acts, it was really their formal nature that gave rise to the hesitations of the judges. Their comprehensibility was not the central problem, whereas it can easily be in the case of an expected appeal against an algorithm.

A Venezuelan author notes how the Venezuelan Supreme Court ruled on a direct appeal, not exactly against an algorithm, but against a series of data sent digitally to a company and which contested the refusal of the company's application. In that case, the Court held that the usual range of legality control tools could not be applied to such an act[25].It is thought that judges can be brought to an identical conclusion in the presence of most algorithms.

It's true that they will be helped by algorithms in the future. But administrative justice with algorithms will raise issues similar to algorithmic administration[26].

b) Alongside the problem of the legitimacy of the algorithms and their control there is the question, which will arise in the near future, of the possible administrative responsibility for decisions taken on the basis of poorly designed, distorted, error-prone algorithms. The determination of such liability can be difficult, if only because the demonstration of defects in the algorithm can be complicated, but obviously it cannot be excluded. An example is offered by an Italian case, which can be easily understood even by someone who is not a data scientist. In Italy, the opening of pharmacies is subject to authorisation, which can be obtained by submitting an application via a digital platform managed by Ministry of Health.

Applications must be submitted for a specific region. However, under current legislation, when the same person's application has been rejected in two regions, he is no longer allowed to submit a further application.

In the present case, a person had submitted an application in Veneto and Lombardy, but his application was rejected because it did not include the mandatory mention of an e-mail address. The following year, the same person had submitted an application for the province of Trento, without omitting the email address this time. However, the system showed that the person concerned had submitted an application twice with a negative result.

The applicant brought an appeal and obtained recognition of the administration's liability, on the basis of proof of the error in the system by confusing a previous rejection on a formal ground with a rejection for a substantive reason[27].

These considerations would soon lead to the introduction of prior checking of algorithms, in particular those used by administrations.

An American author recently suggested that to prevent the marketing of malignant algorithms, it would be wise to create an independent authority with the power to authorize the marketing of algorithms, similar to the 'Food and Drug Administration', which has the power to market drugs. One could also imagine auditing mechanisms for algorithms.

This is what French Commission Nationale Informatique et Libertés (CNIL) recently proposed in its report Comment permettre à l'homme de garder la main? Rapport sur les enjeux étiques des algorithmes et de l'intelligence artificielle[28].

### 3.1.2. *Daily relations between citizens and administrations*

The digitalization of administrative action, of course, changes the relationship between citizens and the administration in terms of efficiency, with a considerable contribution of speed and reliability. But its effects seem to go much further and, as far as we can estimate today, they also influence the political dimension of the report. The constant increase in the transparency of public data is very important, especially as it tends to restore a sort of balance of powers between citizens and public authorities: the more citizens have access to data on the functioning of public institutions, the more they can assess their policies, propose new policies and draw

[25] J. R. Belandria García, *Inmunidades del poder en el funcionamiento de la Administración Pública a través de Tecnologías de la Información y la Comunicación*, in *Revista electrónica de derecho administrativo venezolano*, vol. 8, 2016, 93.

[26] M. Clément, *Algorithmes au service du juge administratif : peut-on en rester maître ?*, in *Actualité juridique droit administratif*, 2017, 2453.

[27] TRGA Trento, April 15, 2015, B. Barmann, *La responsabilità della Pa per il cattivo funzionamento dei sistemi informatici*, in *Giornale di diritto amministrativo*, vol. 3, 2016, 393.

[28] 15 December 2017, available at https://www.cnil.fr/sites/default/files/atoms/files/cnil_rapport_gender_la_main_web.pdf

conclusions for subsequent elections.

This should be particularly evident in the context of local institutions. However, we must not exaggerate the scope of this. The issue of the digital divide remains central, but in addition to the fact that access to public information benefits, at least until now, only a minority of people - who have the ability to master electronic and digital tools that predominantly have an academic background or associative experience - should not be forgotten that the digital revolution also brings its own opacity, as noted with regard to algorithmic governance. With this caveat, the potential contribution of digital transformation to the progress of administrative democracy is certainly important. Current information and communication technologies make it easier to give citizens a voice, allowing them to express their opinions on administrative projects outside the traditional framework of participation, consisting of elections, polls and similar procedures. Again, developments in the context of local public life are potentially considerable.

The challenge for law is to ensure that mechanisms operate fairly, without discrimination and to favour specific categories of citizens, starting with those who are best able to use current information and communication technologies.

### 3.1.3. *Foreseeable changes in the distribution of roles between public and private actors*

The first phenomenon to be mentioned in this respect is that, in the digital world, some private actors are equipped with means of action largely equivalent to those of public institutions.

It is well known that GAFAM (Google, Apple, Facebook, Amazon, Microsoft) today hold an economic and political power that makes them competitors of States.

But the phenomenon does not boil down to these exceptional cases. It must be realised that many, today, are the private actors who hold stocks of information that tend to compete with those owned by public institutions.

In the local sphere, a significant part of the data related to the life of the community is in the hands of private companies of transport, commercial distribution, water or energy, telecommunication, etc.

In some cases, this situation allows these companies to create services that were traditionally provided only by public institutions. Moreover, sometimes these activities are part of ordinary services, such as mobility assistance, but sometimes involve traditionally public functions such as security (e.g. the fight against crime).

This evolution, which is analysed in the recent report of the French Council of State *Puissance publique et plateformes numériques: accompagner l'uberisation*[29], will of course soon raise the issue of coordination with the services provided by public institutions.

Another issue that arises in this context concerns whether and how it will be possible to make data held by private actors but of general interest accessible to public authorities when necessary to develop policies, prevent risks or stimulate local economic development.

The problem is sometimes or often solved through agreements that public authorities conclude with private actors, who wish to maintain good relations in order to cooperate with the administration in the long term. But it will probably not be possible to avoid legislating anyway and it will not be easy to do so, as data held by private actors are increasingly essential commercial resources that they are unwilling to share.

French legislation has only partially resolved the problem, with two sets of provisions introduced by the Law of 7 October 2016 concerning Digital Republic. The latter has required, when a public service is the subject of a concession, that the concessionaire provide the granting authority with all data collected or produced under the concession in the course of providing the public service and which are essential to it[30].

In addition, it has been provided that the Minister for Economic Affairs may, in the course of surveys, require enterprises to transmit to the administration for the sole purpose of statistical compilation the information contained in their databases when it is necessary to carry out these surveys[31].

This trend of the quantitative and qualitative importance of private data stocks is complemented by a second, perhaps equally important, trend: in the digital world, private activity sometimes acquires a legitimacy equivalent to that traditionally associated with public intervention.

A sociologist[32] emphasizes how the digital revolution brings out an algorithmic objectivity that appears to be equal or superior to the type of legitimacy that derives from traditional forms of knowledge (based on science, public institutions, media). And they are often powerful private actors who are armed with this algorithmic objectivity. Google search engines establish hierarchies of analysis and facts based on algorithms and impose these hierarchies on their

[29] Conseil d'Ètat, *Puissance publique et plateformes numériques : accompagner l'uberisation*, in *La Documentation française*, 2017.
[30] Article 53-1 of the Order of 29 January 2016 concerning concessions.
[31] Art. 3-a of the Law 7 June 1951 on statistics.
[32] D. Boullier, *Sociologie du numérique*, Paris, Armand Colin, 2016, 149.

clients.

This potential shift from legitimacy to privacy is confirmed by the prospects opened up by blockchain mechanisms. Using once again a Wikipedia definition, the blockchain is a shared and unchangeable data structure. It is defined as a digital register whose entries are grouped in pages (called blocks), concatenated in chronological order, and whose integrity is guaranteed by the use of cryptographic records. Although its size is destined to grow over time, it is immutable because, as a rule, its content once written is no longer modifiable or eliminable, unless it invalidates the entire structure. This is the technique behind the bitcoin coin. The blockchain technique can serve tomorrow as a basis for exchanges of data or goods traditionally managed under the control of public institutions, but which would no longer be controlled by them because they are operated by private individuals, through collective channels of self-organized data[33].

It seems, moreover, that developments in this direction are already observable in trade in the energy market. They could, according to some, quickly become established in other areas, such as public procurement, for example[34].

### 3.2. *Probable conceptual developments*

Beyond these functional evolutions, one may wonder whether the digital revolution is not able to challenge administrative law on the ground of its conceptual foundations and this in three directions: the emergence of the concept of public data as a key concept, the changes necessary for the very conceptualization of public decision-making processes and the content of administrative acts.

#### 3.2.1. *Public data as a key concept*

Most of our administrative charges place the administrative act, more precisely the administrative decision, at the heart of their system. This is due to the fact that their historical construction owes a great deal to judicial control over the legality of decisions taken by the administration. The administrative rights of common law are the only ones to deviate significantly from this model and this is because, in the corresponding systems, it has always been possible to challenge and challenge before the courts administrative proceedings or simply informal behaviour as a defined act.

Today there is every reason to believe that data - and their processing - even through algorithms - could reach the administrative act at the heart of the conceptualisation of administrative law systems in a short time.

Important legal consequences arise from the fact that public data are regulated by a set of rules, mentioned above, which applies to the constitution, management, use of data. The difference between the public data and the administrative act stems from the fact that the data do not create rights and obligations.

Yet, if you consider the data+algorithms pair, the difference seems less clear, because sometimes the decision finds its content in this pair and not in the will of the administration, which then issues the formal administrative decision.

This is also linked to what is observed about the effects of digitization on decision-making processes.

#### 3.2.2. *The digitalization of public decision-making processes*

Digitization is transforming administrative decision-making processes into aspects of more or less fundamental importance, depending on administrative rights.

a) First, while historically the relationship between government and citizens is conceived as a one-sided relationship, a relationship of authority, digitization contributes to that reflexivity of relations between public authorities and society that has been amply demonstrated by thinkers such as Ulrich Beck and Anthony Giddens[35]. Various private actors have means of action and legitimacy resources equivalent to those available to public authorities. Their relations with the latter naturally tend towards partnership rather than submission to their orders.

b) Then the question can be asked whether the administration's relationship with time is not in transformation. The traditional administrative act fixes the relationship between the administration and the citizen at a given moment in the evolution of the applicable rules: for example, when issuing a building permit the rules on land use resulting from the last modification of the local town planning plan apply. Digitization can affect this relationship with time in two ways. On the one hand, it opens the way to processes of constant adaptation of standards, especially when the decision is based on learning algorithms. On the other hand, it constantly feeds the decision-making process with real-time information on the situation that the administrative decision aims to govern. The timeframe of an administrative decision is therefore potentially altered by a double source of variation, which is likely to

[33] L. Grynbaum, C. Le Goffic, and L. Morlet, *Droit des activitiés numériques*, Paris, Dalloz, 2014, 39.
[34] N. Fabrizi-Racine, *La blockchain : Révolution d'État ?*, in *Semaine juridique*, vol. 50, 2017, 17.
[35] U. Beck, *Towards a new modernity*, Newbury Park, Sage, 1992; A. Giddens, *The Consequences of modernity*, Cambridge, Polity, 1990.

destabilise both the exercise of decision-making power and its judicial review.

### 3.2.3. *Content of public decisions*

a) As observed, an essential characteristic of contemporary algorithms is that they sometimes operate according to a probabilistic logic rather than a causal and deterministic logic. As Dominique Cardon explains[36], in their operation, statistical correlations do not go from cause to consequence, they derive from consequences an estimate of probable causes. This distances them from the reasoning in terms of causality on which the decisions of public institutions are in principle based.

b) Another important attribute of algorithm-based decision making is that this is often based on the identification in extreme detail of the situations it addresses. This stems from the fact that decisions based on the application of algorithms to large amounts of data are based on the extreme desecration of situations and people. It is to be feared that this extreme identification will break with the traditional university of the administrative decision, which, even if applied to a particular situation, necessarily refers to the universal because the rules it applies must not be created specifically to deal with the case to which they are addressed. It is true that when an administrative act is presumed to be based on an assessment of a particular situation, our administrative rights generally require it to be preceded by a particular examination of circumstances. But this particular examination will necessarily be based on a limited number of criteria while the algorithm can integrate a considerable number of factors into its mechanics. The digital revolution can therefore lead to an extreme individualization of public decisions.

c) The third element to underline is that the algorithm often contains a so-called clandestine regulatory level[37]. The problem is highlighted by an author who shows that when the implementation of legislation is ensured by an algorithm-driven device, a kind of quasi-legislation has necessarily been developed in the same conception of the algorithm[38]. In other words, algorithmic governance could create a kind of hidden regulatory power, in any case opaque to all those who do not have access to the algorithm or are unable to interpret it.

This phenomenon is particularly worrying in the case of self-learning algorithms, which are able to adapt spontaneously to the changes they perceive in the data sets to which they are applied.

## 4. *Summary considerations*

It is not as a political revolution that the digital transformation comes into contact with our societies, our administrations, our administrative rights. It is a mutation that acts gradually and often unexpectedly, as the great technological revolutions often do. Initially, the impact on administration and the law seemed superficial; it gave the impression that we simply had to speed up banal and recurring administrative operations. Things have changed with the data, telecommunications and internet revolution. Today, digitisation is changing important aspects of administrative operation, both in terms of procedure and determination of the content of decisions, and in terms of judicial review. This affects at the core of our administrative rights because at various levels it influences the traditional characteristics of their central object, which is generally the administrative act and the processes that contribute to its adoption.



[36] D. Cardon, *A qui rêvent les algorithmes ? Nos vies à l'heure des big data*, 39.
[37] On the subject, see E. D'Orlando and G. Orsoni, *Nuove prospettive dell'amministrazione digitale: Open Data e algoritmi*, in *Istituzioni del federalismo*, vol. 3, 2019, 593.
[38] D.W. Schartum, *Law and algorithms in the public domain, Etikk i praksis*, in *Nordic Journal of Applied Ethics*, vol. 1, 2016, 15.