Monitoring the evolution of cognitive and decision-making activities of public administrations is a privileged observatory to investigate changes in the exercise of public functions. Both the acquisition of knowledge and decision making as means to solve administrative problems are exposed to sudden structural changes. If, on the one hand, these modifications render individual legal provisions obsolete, on the other hand they also increase awareness about the need to assess these developments by reference to general principles of administrative law. The aim of the present study is to evaluate these aspects in relation with the classical legal issues and institutes of administrative law.

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Vinicio Brigante

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Cognitive activity and data, measures and algorithms in the changing administration

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STUDI DI ATTUALITÀ GIURIDICHE

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PERCORSI EVOLUTIVI DELLE DECISIONI AMMINISTRATIVE

Attività conoscitiva, provvedimenti e algoritmi nell'amministrazione che cambia

EDITORIALE SCIENTIFICA

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‘Dirà il futuro se anche l’arte di amministrare potrà essere guidata integralmente e quasi raffreddata da tecniche oggettive e generalmente accettate: ma è da sperare che questo risultato sia lontano’

F. LEDDA, *Potere, tecnica e sindacato giudiziario sull’amministrazione pubblica*, in *Scritti giuridici* (2002)

‘Dedicated to all those who are running away’

G. SALVATORES, *Mediterraneo* (1991)

To my master and mentor, Professor Ferdinando Pinto
for his ever-present care and unconditional trust

To Alessia and Fabiana
for their love.
To their dreams, to their desires.

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CHAPTER I

EVER-INCREASING COMPLEXITY OF ADMINISTRATIVE ACTION IN THE CURRENT (AND UNCERTAIN) ITALIAN LEGISLATIVE AND ADMINISTRATIVE LANDSCAPE: DIGITAL POLICIES, BETRAYED REFORMS AND FIRST CRITICAL ISSUES

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1. *Developments in tasks to be performed by public administration. The need for scholarly lawyers to study these evolutionary processes in vitro*

Paths of evolution and transition of cognitive and decision-making activities (not necessarily understood in an inter-functional sense) reflect the path of change that concerns public administration itself and are often symptomatic indices of sub-

sequent rethinking of the administrative system. These are two key activities, inescapable, representing the barometer of the evolving public administration.

The increasing and continuous complexity of tasks for which public administration is responsible and the way in which they are carried out call for an analysis in terms of the consistency of the system of classical principles of administrative law[1]. The variety of tasks and the availability for administration of ever innovative tools and technologies requires the lawyer to reflect on the topicality of certain aspects of traditional activity of which administration is responsible.

The aim of the investigation is to assess how the activity of acquiring knowledge and adopting decisions by public administration evolves. In this context – it is necessary to clarify it in the opening of the analysis – the notion of decision is to be understood as a choice for the resolution of an administrative problem[2].

[1] The issue of the complexity of the duties of the administration always occurs in relation to changes in society that require the administration to adapt, as noted by V. SPANGUOLO VIGORITA, *Attività economica privata e potere amministrativo*, Napoli, 1962, 10 ff.; G. PASTORI, *L'amministrazione da potere a servizio*, in M.R. SPASIANO (*ed*), *Il contributo del diritto amministrativo in 150 anni di Unità d'Italia*, Napoli, 2012, 47 ff., the increasing complexity leads the administration to perform only a part of its tasks.

[2] F. LEDDA, *Determinazione discrezionale e domanda di diritto*, in *Studi in onore di F. Benvenuti*, Modena, 1996, 955 ff., now in *Scritti giuridici*, Padova, 2002, 371, "*l'attività decisionale in cui si spende la discrezionalità amministrativa costituisce una «funzione» che solo in senso strettamente giuridico può essere pensata e definita, e che sul piano del diritto assume rilevanza tanto per le modalità del suo svolgimento quanto per i suoi risultati sostanziali (e quindi, per il criterio di soluzione del problema amministrativo)*" quoted by L. GIANI, *Il problema amministrativo tra incertezza della tecnica ed esigenze di tutela del cittadino (il contributo di Franco Ledda)*, in L. GIANI, A. POLICE (*eds*), *Itinerari interrotti. Il pensiero di Franco Ledda e Antonio Romano Tassone per una ricostruzione del diritto amministrativo*, Napoli, 2017, 135 ff., decision making is a function that is relevant both for the way it is carried out (cognitive activity) and for substantial results (administrative decisions); in a fully compliant

From this point of view, both the way in which decision-making is carried out, i.e. cognitive activity, and the adoption of administrative decision itself are subject to a usual path of development and change that must be studied to assess how public administration changes, and with it the rules that govern its action.

Certain provisions governing key aspects of public administration activity seem to be no longer relevant or seem to oblige the administration to replicate activities that could be fully delegated to the *ICTs* available to the administration itself.

Administrative law, which was founded as a special law, has lost its traditional points of reference and has become the law of transformation, which traces change and supports it according to the functions of public interest held by administration[3].

The analysis carried out aims to give an account of the evolution of these institutional tasks, with specific reference to cognitive activity and the phase of adoption of administrative decisions – chosen as a privileged research observatory – in order to test the evolutionary perspective of these aspects of administrative action[4].

sense, in the meaning of an administrative decision, as the choice which arises at the end of the administrative inquiry F.G. SCOCA, *La teoria del provvedimento dalla sua formulazione alla legge sul procedimento*, in *Dir. amm.*, 1995, 38; G. CORSO, *Manuale di diritto amministrativo*, Torino, 2017, 206 ff.

[3] S. CASSESE, L. TORCHIA, *Diritto amministrativo. Una conversazione*, Bologna, 2014, 7 ff.; M. CAMMELLI, *Amministrazione e mondo nuovo: medici, cure, riforme*, in *Dir. amm.*, 2016, 9 ff.

[4] Reference is made to administrative activity as a whole, as being directed towards care of a public interest, F.G. SCOCA, *Attività amministrativa* (encyclopedic voice), in *Enc. dir.*, Agg. VI, Milano, 1998, 292 ff.; E. CASETTA, *Attività amministrativa* (encyclopedic voice), in *Dig. Disc. Pubbl.*, I, Torino, 1987, 527 ff., on the use of the term 'administrative activity' and how this concept refers to the theme of function; A. PUBUSA, *L'attività amministrativa in trasformazione: studi sulla legge n. 241 del 7 agosto 1990*, Torino, 1993, 3 ff.; N. LONGOBARDI, *Il diritto amministrativo in trasformazione*, in N. LONGOBARDI (*ed*), *Il diritto amministrativo in trasformazione*, Torino, 2017, 2 ff.

Administrative law scholars has the opportunity to study this evolution through a sort of laboratory for change in public administration, i.e. smart city, which allows an *in vitro* evaluation how the tasks and methods for performing them change and how legal structures and principles of administrative law react to this change. It is necessary to explain that this aspect is only dealt with in order to have first responses in terms of evolution of cognitive and decision-making activity. The analysis conducted here does not deal with the issue of smart cities, which concerns different issues not analyzed here, but uses this model to see in advance how some aspects of administrative activity change.

Changes in the performance of public administration tasks can be studied in relation to the first hypotheses of use of algorithms and data in the context of the investigation or administrative decision, which are seen as research laboratories, in which to try to experiment with new modes of administrative action, and understand what kind of corrective measures to adopt.

For these reasons, the research exploits the theme of first hypotheses of exploitation of *ICT* in the strategic phases of the administrative activity to have a future perspective about evolution of the methods of carrying out administrative action, to assess how the issue of cognitive activity and adoption of administrative decisions is developing and in which direction.

In this sense, smart city pattern enables some of these aspects to be assessed in advance, from a legal point of view, and it is a neutral concept[5] since it can be oriented towards a plurality of ends.

[5] On the subject of the difficulty of reaching a legal definition of smart city, not as a concept of autonomous research, but to understand in which direction the evolution of public administration is going, see E. CARLONI, *Città intelligenti e agenda urbana: le città del futuro, il futuro delle città*, in *Munus*, 2016, 239 ff.; R. FERRARA, T*he smart city and the green economy in Europe: a critical approach*, in 8 *Energies* (2015), 4724 ff.; S. ANTONIAZZI, *Smart city: diritto, competenze e obiettivi (realizzabili?) di innovazione*, in

Changes in exercise of administrative activity represent the trend towards a radical rethinking of elements that characterize States and consequently the exercise of administrative tasks, such as administrative organization by territory and by functions, centrality of data for exercise of public functions (and especially in terms of improving cognitive heritage of the administration), the possibility to support or replace in its entirety administrative decisions with an algorithm.

However, if some of these aspects have already been analyzed in detail – for example, issue of global administrative law[6],

www.federalismi.it, 2019, 8, smart cities represent a broad concept, with legally uncertain boundaries, mainly linked to soft law acts; M. CAPORALE, *L'attuazione delle smart cities. Competenze e coordinamento tra i vari livelli di governo*, in *Ist. fed*., 2015, 949 ff.; A. PENSI*, L'inquadramento giuridico delle città intelligenti*, in *www.giustamm.it*, 2015; A. CASINELLI, *Le città e le comunità intelligenti*, in *Giorn. dir. amm*., 2013, 240 ff.; R. FERRARA, *La partecipazione al procedimento amministrativo: un profilo critico*, in *Dir. amm*., 2017, 209, that identifies smart cities and smart communities as spaces in which the citizens' requests find wider spaces than those found in the administrative proceedings; on the other hand, the concept of neutrality also refers to network, a subject that intercepts that of smart cities, and for an analysis of the relationship with administrative authorities, see, see P. OTRANTO, *Net neutrality e poteri amministrativi*, in *www.federalismi.it*, 2019.

[6] On the subject the legal literature is extensive, *ex multis*, please refer to S. CASSESE, *Il diritto amministrativo globale*, in *Riv. trim. dir. pubbl.*, 2005, 331 ff.; S. CASSESE, M. CONTICELLI (*eds*), *Diritto e amministrazioni nello spazio giuridico globale*, Milano, 2006; G. DELLA CANANEA, *I poteri pubblici nello spazio giuridico globale*, in *Riv. trim. dir. pubbl.*, 2003, 1 ff.; G. DELLA CANANEA (*ed*), *I principi dell'azione amministrativa nello spazio giuridico globale*, Napoli, 2007; L. CASINI, *Diritto amministrativo globale* (enclyclopedic voice), in S. CASSESE (*ed*), *Dizionario di diritto pubblico*, Milano, 2006; L. CASINI, *Potere globale. Regole e decisioni oltre gli Stati*, Bologna, 2018; B. MARCHETTI, *Su 'Rule of law' e leglaità globale*, in *Quad. cost.*, 2013, 1039 ff.; E. CHITI, B.G. MATTARELLA (*eds*), *Global admistrative law and EU administrative law. Relationships, legal issues and comparison*, Berlin, 2011; R. FERRARA, *Introduzione al diritto amministrativo. Le pubbliche amministrazioni nell'era della globalizzazione*, Roma-Bari, 2008, 201 ff.; L. TORCHIA (*ed*), *Il sistema amministrativo italiano*, Bologna, 2009; R. FERRARA, *Il 'posto' del diritto amministrativo: fra tradizione e globalizzazione*, in *Dir. soc.*, 2004, 139 ff.; J. MORAND-

with a view to rethinking about exercise of traditional administrative power linked to a territory – the synthesis of all the factors of the evolving administration can represent the driving factor behind change in public administration, a litmus test of evolutions in the exercise of administrative powers.

The neutrality of the evolutionary model of public administration resides in two factors.

First, distinctive elements are not listed by law, so new perspectives of administration can be explored.

Secondly, elements mentioned (data centrality, use of algorithms, etc.) can be used indiscriminately, without a predilection of one element over the other, because they can potentially be in conflict with each other[7].

For these reasons, the possibility of analysing these changes *in vitro* makes the administration itself a different field of research becuase it becomes a place to analyze the strength and

DEVILLER, *La globalisation et le droit administartif,* in *Dir. econ.*, 2004, 487 ff.; C. FRANCHINI, G. DELLA CANANEA (*eds*), *Il diritto che cambia. Liber amicorum Mario Pilade Chiti*, Napoli, 2016; M.R. FERRARESE, *Le istituzioni della globalizzazione. Diritto e diritti nella società transnazionale*, Bologna, 2000; in the interesting perspective according to which the Independent Administrative Authorities have been, by virtue of the functions exercised, precursors of this weakening of the borders, in the view of a global administrative law, see S. SCREPANTI, *La dimensione ultrastatale delle Autorità indipendenti: i sistemi comuni 'europei e globali'*, in *Riv. it. Dir. pubbl. com.*, 2009, 913 ff.

[7] Consider two characteristics that coexist in the development of evolving administration, namely use of *ICT* for a faster conclusion of administrative proceedings and full availability of data for citizens; these are two characteristics that coexist, but the first runs the risk of making administrative action more unclear (*ICT* are often unintelligible to citizens) while the second tendentially aims to bring closer the citizen and public authority. Neutrality lies in the possibility of reversing terms of the issue, always within the development of the the changing administration. In relation to the characteristics just mentioned, a faster administrative procedure through *ICT* can allow a greater knowledge of the choices of the administration, while the availability of data on the platforms of the administration can be obscured with a software, making the administration no less transparent than completely obscure.

the need to rethink classical legal institutes of administrative law[8].

The aim of this research is to analyse the potential and critical aspects of the evolving administration model in order to imagine a new path for Italian public administration, through the analysis of existing compatibility and trying to overcome many existing critical aspects, both at legislative level and at level of implementation on the part of public authority, having as reference cognitive activity and the adoption of administrative decisions

The necessary starting point for the search is focused on theme of digitization (understood as a prerequisite, the support necessary for tasks for which administration is entrusted) and the problematic implications that it causes, since this aspect constitutes the factual assumption (but not only) of a renewed exercise of administrative function[9].

It seems necessary to clarify at the beginning of the discussion that the expression 'evolving administration' – as an administration based on the use of new tools that the technology makes available to the administration itself – does not concern a single model of administration or refers to a specific area of public administration, but concerns the possibility of exploiting in different operational areas (administrative procedure, admini-

[8] In general terms, on these study methodologies, see F. FRACCHIA, *The science of administrative law, juridical method and epistemology: the roles of paradigms in the era of the crisis of modernity*, in *Ital. J. Pub. L.*, 2013, 6 ff.

[9] On the subject of the administrative function, reference should be made to F. BENVENUTI, *Funzione amministrativa, procedimento e processo*, in *Riv. trim. dir. pubbl.*, 1952, 118 ff., now in *Scritti giuridici*, II, Milano, 2006, 1117 ff., the function is the moment in which the administrative power takes the form of an act. The typical form of administrative function is the proceeding; on the use of the terms powers and function, please refer to the very broad and authoritative analysis by A.M. SANDULLI, *Manuale di diritto amministrativo*, XV ed., I, Napoli, 1989, 10 ff., it is not easy to find a difference between power and function, between exercise in an objective and subjective sense.

strative decision) the potential related to the use of data and of *ICT* held by public administrations, the development of *ICT*, the existing models (e.g. the use of the algorithm for administrative decisions taken for the mobility of school teachers, analysed in detail, *infra* chapter 3) with which the legislator and the administration have to deal; the public administration cannot isolate itself, ignoring aspects that, if regulated in a timely manner, can assist administrative action.

1.1 *Conditions and constraints for development and modernization of public administration*

Two preconditions for development of renewed public administration model are a clear, non-layered and flexible legislative discipline (in the sense of a legislative framework that can adapt to sudden technological change, a factual and indispensable prerequisite) and a body of administrative officials trained to exploit the unlimited potential that can derive from *ICT*; these aspects, which are necessary conditions for a proper performance of traditional administration, take on strategic importance if they are included in a context of evolving administration. To these two potential obstacles must be added the issue of constraints imposed by public finance, which is considered to be a false problem, as noted at the end of this paragraph

To date, in Italian legislative and administrative landscape, these two preconditions are completely missing, although it is appropriate to examine both aspects individually.

Regulatory hypertrophy[10] seems to have become the Howe-

[10] This aspect has been analyzed extensively by Italian scholars, both in terms of possible solutions, such as simplification, and in terms of uncertainty caused to legal system, here it is taken as a reference studies carried out by M.P. CHITI, *Semplificazione delle regole e semplificazione dei procedimenti: alleati o avversari?*, in *Foro amm. CDS*, 2006, 1057 ff., regulatory hypertrophy and poor quality regulation have a decisive impact on public administration action, and these general considerations have an even greater impact in rela

ver, there is no necessarily negative opinion, *a priori*, with re-

tion to an issue, that of the evolving administration, which is developing and therefore seeking clear and structured legislative paths, and which must deal with these unsurpassed problems; R. FERRARA, *Procedimento amministrativo, semplificazione e realizzazione del risultato: dalla 'libertà dall'amministrazione' alla libertà dell'amministrazione?*, in *Dir. soc.*, 2000, 101 ff.; F. MANGANARO, *Principio di legalità e semplificazione amministrativa*, Napoli, 2000, 159 ff.; as noted, *ex multis*, by G. TROPEA, *La discrezionalità amministrativa tra semplificazioni, liberalizzazioni, anche alla luce della legge n. 124/2015*, in *Dir. amm.*, 2016, 114 ff., the reorganization of the discipline through codes and unique texts must follow the modalities of so-called better regulation; M.A. SANDULLI, *Ancora sui rischi dell'incertezza delle regole (sostanziali e processuali) e dei ruoli dei poteri pubblici (Postilla a 'Principi e regole dell'azione amministrativa. Riflessioni sul rapporto tra diritto scritto e realtà giurisprudenziale)*, in *www.federalismi.it,* 2018; P. GROSSI, *Sulla odierna incertezza del diritto*, in *L'incertezza delle regole. Annuario AIPDA 2014*, Napoli, 2015, 1 ff.; in a compliant sense, on the subject of the so-called complication of the system of sources and repercussions on administrative law, see M. BOMBARDELLI, *Semplificazione normativa e complessità del diritto amministrativo*, in *Dir. pubbl.*, 2015, 987 ff.; F. PATRONI GRIFFI, *La fabbrica delle leggi e la qualità della normazione in Italia*, in *Dir. amm.*, 2000, 113 ff.; F. FRACCHIA, *L'amministrazione come ostacolo*, in *Dir. econ.*, 2013, 357 ff.; A. NATALINI, G. TIBERI (*eds*), *La tela di Penelope. Primo rapporto Astrid sulla semplificazione legislativa e burocratica*, Bologna, 2010; M. CLARICH, B.G. MATTARELLA, *Leggi più amichevoli: sei proposte per rilanciare la crescita, in Diritto e processo amministrativo*, 2011, 399 ff., the defects of the Italian legislative system are not limited to the disproportionate number of laws, but also to disordered regimes and excessively short periods of law enforcement. Apart from the excessive number of laws, one problem is the lack of coordination between them and their fragmented content; M. DE BENEDETTO, *'Good regulation': organizational and procedural tools*, in *Ital. J. Pub. L.*, 2013, 239 ff., "The problem of the quality of regulation (how to design a good regulatory regime) could be usefully analysed as the problem of the quality of rules (how to make a good rule). Only legal rules are specifically enforced and only a single legal rule imposes consequences on its targets, altering their behaviour. The legal rule is, in other words, the basic element in the context of wider regulation"; N. RANGONE, *The quality of regulation. The myht and reality of good regulation tool*, in *Ital. J. Pub. L.*, 2012, 92 ff., "it is crucial to understand what these good regulation tools are really intended for, and to avoid their over or under-evaluation, both of which could be influential in reforms made partially or in name only. At the same time, their limits could incentivize the search for innovative solutions, such as a special attention to the real needs and behaviour of people in the design

gard to overregulation. In order to give an immediate sense of the debate between updating of regulation and technological development, a tension that crosses the whole study, it is necessary to recall the words of the Constitutional Court[11], according to which it is desirable that the legislator takes on new regulatory needs; however, often the rapid technological development has induced legislator to an inertia that has made necessary intervention of substitute courts (as will be seen *infra,* chapter 3, in relation to algorithms and administrative decisions and the supplementary role of T.A.R. Lazio) or independent authorities.

It is appropriate to learn more about the lawmaking process; a few general rules, with a programmatic scope, or individual detailed provisions, governing each and every aspect of the subject. Also from this point of view, evolving administration can become a testing ground for the way to legislate.

Herewith, a negative opinion is expressed on the possibility of regulating the subject under examination with detailed (primary) rules, with the concrete risk that technological development exposes them to rapid obsolescence.

One factor that is certainly negative is the stratification and

of new regulation, as well as in its measurement and reform"; F. PINTO, *La coerenza e le regole*, in *Giust. Civ.*, 1995, 34 ff.; R. FERRARA, *Qualità della regolazione e problemi della multilevel governance*, in *Foro amm. TAR*, 2005, 2251 ff., which notes that the problem of the quality of regulation must be analysed on the basis of the entity most likely to benefit from it; B.G. MATTARELLA, *La trappola delle leggi. Molte, oscure, complicate*, Bologna, 2011; V. ITALIA, *Il disordine delle leggi e l'interpretazione*, Milano, 2010, 37 ff.; F. MERUSI, *La semplificazione: problema legislativo o amministrativo*, in *Scritti in memoria di Roberto Marrama*, II, Napoli, 2012, 685 ff.; G. VESPERINI (*ed*), *Che fine ha fatto la semplificazione amministrativa?*, Milano, 2006; F. SALVIA, *La semplificazione amministrativa: scorciatoie procedimentali e semplicismi mediatici*, in *Scritti in memoria di Roberto Marrama*, II, Napoli, 2012, 977 ff.

[11] Corte Cost., 8 November 2016, no. 265, in *www.federalismi.it,* 2016, the continuous evolution of the technological scenario makes the role of the Courts central and a further difficulty is given by the lack of territorial character of the phenomenon, which is by its very nature transnational.

lack of coordination between the provisions in force[12], an ancient theme for administrative law scholars, which is also presented in the future.

The second aspect to consider concerns the current body of public officials, which does not have the specific skills to exploit the potential of such technology, given that to date the human factor for administrative action remains not fully surrogateable with the use of *ICT* (as will be seen in detail *infra*, chapter 3). The use of *ICT*, Big Data, databases is a starting point, but it is not possible to ignore an administrative body that knows and can exploit the potential of all these new tools, but current Italian bureaucratic apparatus does not seem ready for such a radical change; in this sense, in relation to the well-known 'Giannini Report' released in 1979, problems of public administration seem to be the same, only the final landing place changes[13].

[12] The issue of the stratification of rules in administrative law is addressed, precisely in these terms by E. CASETTA, *Il sistema di diritto amministrativo in Umberto Pototschnig*, in *Dir. amm.*, 2001, 471 ff., administrative law is by its very nature fragmentary, the consequence of an often inconsistent regulatory stratification and the varied contribution of case-law; in any case, it suffers from the absence of a code or basic legislation.

[13] As noted in the study document drawn up by RAPPORTO ASPEN INSTITUTE ITALIA, *Le riforme della pubblica amministrazione nella XVII Legislatura. I motivi ispiratori, i risultati conseguiti, gli obiettivi da raggiungere* (coordinated by S. CASSESE), avaiable on *www.aspenistitute.it*, 2018, 81 ff., in order to achieve full digitalization of public administration, an adequate infrastructure system, a clear and coherent regulatory framework, robust and unified institutional governance, an administrative culture open to innovation, and a widespread knowledge of IT and digital tools are needed. This issue is of strategic importance for economic and social development: digital tools allow administrations to promote, accompany or guide, as appropriate, processes of transformation that characterise the world of work, development of start-ups. The theme of digitization is transversal and pervasive, but it is necessary to invest in diffusion of digital skills, both of administrations and of users. One of the main challenges that Italy is still facing with delay is drawing up strategies and action plans to promote the dissemination of digital tools at all levels of government and the reorganization and rethinking of public systems as a result of constant technological changes; G. BERTI, *Diritto e Stato: riflessioni*

This structural weakness is due, among other reasons, to the multi-year block of regular recruitment and of turnover that has made Italian public administration hostage to a bureaucratic apparatus not prepared to exploit the potential of *ICT*[14].

The last potential obstacle concerns the cost of adopting an interconnected network because equipping administrations with *ICT* entails costs that the administration cannot bear. Such an approach is wrong, because it is pauperistic and short-sighted; an administration that uses data and algorithms in exercise of its functions can bring considerable cost savings, since budget constraints are not linked to abstract rigour, but must guide a look at the development of administration[15].

sul cambiamento, Padova, 1986, 21 ff., the Author, more than thirty years ago, in his studies on the organization of the public administration noted that the public computerization had to take into account the rights of the person. The strengthening of bureaucracy must be coordinated with the active involvement of citizens; in a consistent sense, on the issue of digitization in relation to the organizational aspects of public administration, please refer to E. PICOZZA, *Politica, diritto amministrativo e Artificial Intelligence*, in *Giur. it.*, 2019, 1765 ff.

[14] On the subject, please refer to S. CASSESE, *Che cosa resta dell'amministrazione pubblica?*, in *Riv. trim. dir. pubbl.*, 2019, 4, the Italian bureaucratic system is affected by a sort of administrative ageing and this consideration, for the subject under investigation, undoubtedly assumes a central value; A. MARRA, *I pubblici impiegati tra vecchi e nuovi concorsi*, in *Riv. trim. dir. pubbl.*, 2019, 233 ff.; L. SALTARI, *Che resta delle strutture tecniche nell'amministrazione pubblica italiana*, in *Riv. trim. dir. pubbl.*, 2019, 249 ff.; R. MAZZARO, C. SILVESTRO, *Fabbisogni e concorsi pubblici nella riforma Madia*, in *Foro amm.*, 2018, 141 ff.; A. BOSCATI, *La politica del governo Renzi per il settore pubblico tra conservazione e innovazione: il cielo illuminato diverrà luce perpetua*, in *Lav. pubbl. amm.*, 2014, 233 ff. On the subject, the necessary reference is to be made to F. FRACCHIA, *I fannulloni pubblici e l'irritazione di Brunetta*, Napoli, 2012; G.D'ALESSIO, F. MERLONI, *Il lavoro alle dipendenza della pubblica amministrazione*, in F. BASSANINI (*ed*), *Per il governo del paese: proposte di politiche pubbliche*, Firenze, 2013, 101 ff.

[15] There is a vast amount of literature on the subject, it is limited to reporting the inspiring works by G. COLOMBINI, *Buon andamento ed equilibrio finanziario nella nuova formulazione dell'art. 97 cost.*, in VV. AA., *Il diritto del*

1.2 *Required legislative pathways: strength of principles, the need to change rules*

The objectives of this analysis are alternative: either to identify a legislative path on the basis of existing rules or to note that existing provisions on the regulation of administrative action are obsolete compared to administrative model that is developing.

Development of technologies and use of data by administrations raise new challenges for legislators, scholars and public administrations, which must be analyzed and read in accordance with guiding criteria of administrative law, so as not to risk undermining this potential or using it to the detriment of citizens' rights. For these reasons, this research aims to hypothesize legal pathways for a digitalized, interconnected administration, to understand the direction and possible landing places of public administration in compliance with guidelines of Italian administrative law, without betraying in this sense Europeanist thrusts.

The solutions clearly oscillate between the search for provisions that are still useful for regulating these aspects of change and the need to identify areas requiring legilslative reform.

This is a crucial point, because it is important to understand whether it is possible to adapt the current legislative framework

bilancio e il sindacato sugli atti di natura finanziaria, Milano, 2019, 381 ff.; V. MANZETTI, *Quale performance amministrativa negli enti locali in situazione di grave squilibrio di bilancio*, in *www.federalismi.it*, 2019; G. COLOMBINI, *La dimensione finanziaria dell'amministrazione pubblica e gli antidoti ai fenomeni gestionali di cattiva amministrazione*, in *www.federalismi.it*, 2017; M. TRIMARCHI, *Premesse per uno studio su amministrazione e vincoli finanzari: il quadro costituzionale*, in *Riv. it. Dir. pubbl. com.*, 2017, 623 ff.; in a divergent manner, on the subject of the robotic judicial decision, see M. LUCIANI, *La decisione giudiziaria robotica*, in *Rivista AIC*, 2018, 875, according to which the judicial decision through *ICT* entails significant costs in terms of design, execution and maintenance and is prudent in asserting cost savings in this context.

to the evolution of administration or whether it changes the administration model in a more in-depth sense. Consider, by way of example, principles of transparency and publicity of administrative action, enunciated by Law 7 August 1990, no. 241 the result of a long legislative evolution aimed at making public administration more open, in terms of public awareness of public action towards citizens. On the contrary, with reference to evolving public administration, which is based on full availability of data, this legislative reference seems to be out of date, because, probably, the need is the opposite to protect confidentiality of data (on the subject see *infra* chapter 2).

To try to circumscribe the issue, evolving public administration must be understood as any model of administrative action in the broad sense that resorts to use data, *ICT* systems (*AI*, algorithms, etc.) and exploits interconnection for an overall improvement of the activity. The research carried out aims to outline the aspects involved in this improvement, i.e. where it lies and the aspects that will necessarily be sacrificed in the inevitable development of the administrative function.

On the one hand, strenght of principles of law and order is necessary and, on the other hand, structural reforms of the administrative system are necessary[16].

In other words, changes in administration could be understood as a way to improve administrative action, in terms of time, quality of services offered, efficiency to be searched through models of interconnected databases; the dubitative formula is mandatory, as has been seen with regard to the neutrality of these aspects, in relation to risks that this model discloses.

Obviously, it should not be misunderstood to consider digital and interconnected administration as the only elements that

[16] Among the many contributions on the subject, to which we will refer in the course of the investigation, we refer to M.S. GIANNINI, *Genesi e sostanza dei principi generali del diritto*, in *Scritti in onore di A. Predieri*, II, Milano, 1996, 901 ff.

characterize evolution within public administration, since the proposed model goes beyond the use of *ICT* and databases, which are the premise and starting point, but do not exhaust the scope of the issue[17].

All aspects analyzed in this survey have as their starting point the use of *ICT*, Big Data, interconnections, but the final landing place, which must be different for each theme treated, must bring a possible solution that oscillates between the reconduction of the subject within classical institutes of administrative law, or awareness of a regulatory ground no longer current for the present (and future) configuration of public administration.

As mentioned, this process of change in public administration (and its processes of knowledge acquisition and decision making), in its various expressions, could find in the *ICTs* the shore of development, in which technological infrastructures allow to develop a fully interconnected model in which public administration itself could achieve the central and programmatic objective of good performance, crystallized by article no. 97 of the Constitution.

In this regard, it is appropriate to point out the existence of a risk that this spasmodic search for efficiency of administrative action, to be sought through the use of *ICT*, entails the hazard of sacrificing the rule of law (topic examined in detail, *infra*) [18], which requires that administrative action be determined by ru-

[17] L. CASINI, *Politica e amministrazione: the 'Italian style'*, in *Riv. trim. dir. pubbl.*, 2019, 19, new technologies have the effect of deforming main legal frameworks, influencing the way in which power is affirmed and exercised, and have a decisive impact on the way in which exercise of power is disseminated and perceived by citizens.

[18] On the crisis of the principle of legality of administrative action, it is enlightening and always current the analysis conducted by F. LEDDA, *La legalità nell'amministrazione: momento di sviluppo e fattori di crisi*, in G. MARONGIU, G.C. DE MARTIN (*eds*), *Democrazia e amministrazione in ricordo di Vittorio Bachelet*, Milano, 153 ff., now in *Scritti giuridici*, Padova, 2002, 295 ff.

les laid down in advance. The criteria of good performance and efficiency lead to the need for rational administrative action, a need that has a direct impact on the legitimacy[19] of the action.

This tension between efficiency and legality is synthesized, *in vitro*, within the changing administration – in the guise of the smart city – that are a point of emersion of classical aspects of administrative law, even if Italian scholars who approach this topic must necessarily deal with the marked idiosyncrasy of the legislator to regulate this issue[20]; the legislator is not yet in a po-

[19] On the issue of the predetermination of administrative activity in terms of legitimacy, *ex multis*, F. LEVI, *Legittimità (dir. amm.)* (encyclopedic voice), in *Enc. dir.*, XXIV, Milano, 1974, 124 ff., the action of the public administration is not determined by the purpose of implementing the law but by the purpose of meeting the collective need to which the law refers.

[20] Italian legislation lacks a specific law for the regulation of smart cities, even if the reference to the subject in two paragraphs of two different laws makes perceptible the transversal role that smart cities can have, also in implementation of the European policy for smart administration (please refer to EUROPEAN COMMISSION, *Smart City and Communities – European Innovation Partnership*, 10 July 2002, available on *www.ec.europe.eu* (2002)). The subparagraph no. 184, of the article no. 1 of the Law 4 August 2017, no. 124 – the annual Law aimed at promoting the development of free competition – delegated to the government the competence to enact legislative decrees for the installation of electronic devices on public transport with the aim of achieving integrated urban development (please refer to the dossier no. 494 – 2 of the 17th legislature, avaiable on *www.senato.it*). Beyond the actual adoption of these legislative decrees, this rule elevates the development of the smart city – without defining it – as a factor of economic growth. The information obtained from these devices must be laid as a data, to improve the efficiency of public service management without sacrificing the protection of citizens security. Among the objectives of the law there was the need to regulate the treatment and management of the acquired data, and, above all, the modalities and the contents of the transferred data. Lastly, there was also the need to ensure adequate protection of privacy by means of a procedure to safeguard the choice of citizens with regard to the communication of sensitive data. In a different way, the subparagraph no. 1087, of the article no. 1, of the Law 27 December 2017, no. 205 – the annual Budget Law – provided for the allocation of a contribution of 3 million euros for the promotion of an Italian digital model, with an express reference to smart cities. Moreover, this rule

sition to regulate this constant stream of change in administration and the reasons are different, among which the dynamism of the theme that is not suitable to be regulated with primary norms o for the reason that not all administrations (in terms of inequalities in the territory) are using these innovative tools

1.3 *A laboratory for an ever-changing administration*

Attempt to delimit key aspects of changing administration can be done in relation to the smart city that uses some tools that can have a decisive impact on administrative activity; Italian jurists, who is approaching to this question from a legal point of view, must disregard the legislative data and can be referred to different and authoritative doctrinal elaborations[21].

has been pointed out by the National Anticorruption Authority (*ANAC*) for a potenatial infringement of the EU's State aid regime (*ANAC*, resolution 11 April 2018, no. 366, note of reporting no. 3 of 2018, avaiable on *www.anticorruzione.it*).

[21] For these reasons, as highlighted by F. FRACCHIA, P. PANTALONE, *Smart City: condividere per innovare (e con il rischio di escludere?)*, in *www.federalismi.it*, 2015, 3, lawyers must contribute to the analysis of the issue and try to provide legal solutions to the problems that arise; in line with this position, see M. CAPORALE, *L'intelligenza si ripartisce o si condivide? A proposito di smartness, livelli di governo e una certa idea di città*, in *Ist. fed.*, 2015, 857 ff., the concept of smart city is multidimensional and this is one of the reasons for the difficult legal framework of the topic; G. URBANO, *Le città intelligenti alla luce del principio di sussidiarietà*, in *Ist. fed*., 2019, 463 ff., the legislative provision of smart cities (Decree Law 18 October 2012, no. 179) consisted in the dissemination of digital culture, i.e. the widespread promotion of information systems and digitization of public administrations, especially in relation to the relationship with citizens; E. CARLONI, *Città intelligenti e agenda urbana*, quoted, 239 ff.; F. GASPARI, *Città intelligenti e intervento pubblico*, in *Dir. econ.*, 2019, 71 ff., smart cities are the new paradigm of urban development, not only because cities are the elective ground for smart policies, but also because smart cities represent the set of instances of transformation of the city context. The smart city represents a new way of understanding urban life and urban well-being and can be understood as the most modern manifestation of the concept of administrative citizenship, which is

The absence of an organic framework for the regulation of the subject under investigation makes it necessary to recover the importance of the rule of law, through a critical rethinking of some specific aspects of Italian administrative law, in order to achieve an effective administrative activity in the sense of more intuitive based on the use of tools that traditional administration did not have (and in some ways does not have) available.

Moreover, the issue is absolutely central in the political debate, at European level as well, as witnessed by 'Europe 2020' strategy, which states that European economy of the future must be smart and inclusive, and, of course, the development of so-called digital administration are an essential part of this project[22].

It should be underlined, however, that public administrations that are developing are not just digital administrations, as a central role must be assumed by citizens and by its conscious use of technology to improve and participate (not in the traditional sense) in the activities of the public administration, so users will have to actively contribute to administrative development, both at a strategic and operational level, feeding so-called co-creation processes.

In this regard, precisely in relation to the processes of co-creation, it is appropriate to ask in the relationship between public administration and citizens, which is the subject that draws the greatest benefit from the new model of administration that is emerging. It seems complex to give an absolute answer, because the advantage depends on the field in which users

much broader than that of digital citizenship and involves the configuration of a status related to a specific territory, which generates subjective legal situations related to being a resident person.

[22] L. ROMANI, *La strategia 'Europa 2020': obiettivi e criticità, con particolare riferimento all'agenda digitale europea e all'interoperabilità dei sistemi informativi delle amministrazioni pubbliche*, in *Rivista amministrativa della Repubblica Italiana*, 2010, 573 ff.; F. FERRI, *Il diritto dell'Unione Europea 'post' 'Europa 2020': alterazione nei rapporti giuridici tra ordinamenti e possibili effetti*, in *Riv. trim. dir. pubbl.*, 2018, 723 ff.

move. An example is the field of algorithm-based decision making (analysed *infra*, chapter 3), where the administration is relieved of a task and is the subject that most benefits from these developments.

This seems to be a central point, since on the horizon there are citizens who must have an active role in processes of co-creation of administrative activity, since the knowledge held by administrations is considered to be usable by anyone; in this perspective, it is appropriate to consider whether the long path linked to the development of institutions that guarantee the participation of the private sector in administrative proceedings has not come to an end. In other words, the process of citizens participation related to production of administrative activity has reached – and will reach – unexpected levels, if compared to standards of the beginning of the 1990s and the beginning of the season of reforms aimed at implementing participation of citizens in administrative activity.

In order to return to the subject of this part of the analysis, profiles of the emerging public administration are based on different dimensions, such as digitization, the organic approach, the new shared governance, the development of innovative infrastructures, the new centrality of the user and all different factors are equally important, since there is no degree of prevalence of one factor over another.

The potential of such an administration model is an opportunity that Italian public administrations tend to interpret in an ambivalent way.

On the one hand, willingness to intercept the potential offered by the great community program by ‘Horizon 2020’, which will provide European cities (and therefore administrations) with significant resources in coming years, on the other hand an opportunity to build new strategic hypotheses of the future of individual cities and offer private investors a credible and stable perspective.

In this regard, according to an interesting reading key, ad-

ministrations are more reluctant to change than the political context of reference is[23]. In this respect, inter-administrative coordination would be desirable in order to be able to take advantage of these European incentives for effective improvement of administrative action.

European thrusts and lowest common denominator that characterizes developments in administrations is the use of most advanced technologies, not only for management and treatment of information (*ICTs*), but also, more generally, for the improvement of the quality of life of citizens, through a series of conflicting objectives on which it is necessary for administrations to balance them (consider the existing tension issue of data re-use and privacy protection, analyzed *infra*).

Moreover, to shift the discussion to the issue of rethinking of territorial boundaries provided for by the Constitution and Italian laws, the same concept of administration must be understood as a real space (urban or not) marked by the integration of citizens, infrastructures and advanced technologies, in support of good administrative structure[24], in which admini-

[23] S. CASSESE, *L'età delle riforme amministrative*, *in Riv. trim., dir. pubbl.*, 2001, 79 ff.

[24] J.B. AUBY, *Le droit de la Ville: du fonctionnement juridique des villes au droit à la Ville*, Paris, 2013, 21 ff., what must be smart is the community, but the close relationship that exists between the smart city and urban settlements is undeniable; C. IAIONE, *The right to the Co-Co city*, in *Ital. J. Pub. L.*, 2017, 85 ff., "the choice of the city as an observation point is also suggested by the observation of the widespread of collaborative practices, that encountered an impressive evolution in recent years achieving a considerable economic and social value, with aconsiderable impact on the legal landscape, particularly at the local level"; an opportunity for reflection is provided by the analysis carried out by L. VANDELLI, during the *lectio magistralis* entitled '*Administration and territory*' held on 26 February 2018 at the University of Naples 'Federico II', according to which it is appropriate to take note of the porosity of the borders of the current territorial authorities, which requires a critical rethinking of them; with regard to the territorial or a-territorial dimension linked to technological innovation policies, see M. FALCONE, *La smart specialisation regionale: se l'intelligenza delle politiche di specializzazione passa da*

stration itself must play an active role and not merely as a spectator.

From this point of view, given that the development of the public administration is also based on a rethinking of physical

una governance ponderata, flessibile, diffusa, in *Le Regioni*, 2013, 1033 ff., the ultimate aim of smart specialisation is to identify available economic and market opportunities, technological niches to be exploited within the market and to become drivers of technological and economic development. The overall logic of smart specialisation is characterized by the ability to choose the sectors on which to focus, which types of technologies to make the object of enchantment; V. BERLINGÒ, *Il fenomeno della datification e la sua giuridicizzazione*, in *Riv. trim. dir. pubbl.*, 2017, 655 ff., the territory until now understood as a constituent element of the State and therefore of its power is submitted to a process of rarefaction which imposes a reinterpretation of the physical space of the administration. The absence of spatial coordinates is at the root of original refusal to recognise an autonomous and intangible legal space such as the data circulation network, even though this refusal does not allow an awareness of the possibility of fully exploiting the potential of a space free of physical constraints where data are available to administrations with the aim of improving their action; S. CASSESE, *Territori e potere. Un nuovo ruolo per gli Stati?*, Bologna, 2016, 7 ff. nowadays, there are territories without governments, mobile borders, global regulations; on the subject of urban space rethinking, please refer to E. CHITI, *La rigenerazione di spazi e beni pubblici: una nuova funzione amministrativa?*, in F. DI LASCIO, F. GIGLIONI (*eds*), *La rigenerazione di beni e spazi urbani: contributo al diritto delle città*, Bologna, 2017, 15 ff.; F. GIGLIONI, *La città come ordinamento giuridico*, in *Ist. fed.*, 2018, 29 ff., cities are complex expressive realities of relationships with a very high potential of legal relevance. These are places that develop the functional aggregation of human activities, as well as accumulate and sediment the passages of men and the succession of generations, preserving and stratifying the transformations of and over time. From this density of relations, revisited in the light of the most recent processes, begins the possibility of seeing in cities the constitution of a new legal space: the abnormal growth of cities, which has occurred exponentially in the last century, is measured by the impact of significant changes that affect production processes and rents, technologies and the world of work, the role of institutions in social life in the last decade, so that today the city is facing new phenomena of abandonment and emptying functional; the theme of smart cities can be a tool to release the analysis of cities from the classic themes of urban planning, on which in a broader sense, see S. CIVITARESE MATTEUCCI, *Territorio e politiche locali*, in M. CAMMELLI (*ed*), *Territorialità e delocalizzazione nel governo locale*, Bologna, 2017, 537 ff.; S. CASSESE, *L'arena pubblica. Nuovi paradigmi per lo Stato*, in *Riv. trim. dir. pubbl.*, 2001, 601 ff.; on the renewed way of understanding the relationship between telematics and the territory, see N. IRTI, *Norma e luoghi. Problemi di geo-diritto*, Roma-Bari, 2001, 61 ff.

space, it can become a factor for growth and restoration of suburban areas[25]; in relation to the neutrality of the subject from which the premise was started, this landing seems to have no contraindications. In this sense, this path of innovation of public administration, can also become a tool to reconsider and combine urban strategies (in which decision-making process plays a key role) that today are disseminated and regulated by different areas of law[26].

This urban space, which is not a self-governing entity, must be fully cabled to allow a continuous flow of data (one of the most debated topics in relation to public administration, technologies), which may allow the administration to operate in a more informed manner, having at its disposal potentially unlimited investigation resources.

[25] F. LIGUORI, *Infrastrutture e periferie*, in *Munus*, 2017, 121 ff., necessity to upgrade infrastructures to guarantee fundamental rights and adapt them to the technological process is strongly felt in the suburbs; M. MAZZAMUTO, *Esiste una nozione giuridica di periferia?*, in *Nuove aut.*, 2016, 5 ff.; F. GIGLIONI, *La domanda di amministrazione delle reti intelligenti,* in *Ist. fed.*, 2015, 1059 ff.; on the theme of inclusive governance in relation to the relationship between the peripheries and smart cities, see the reflections carried out by A. POLICE, in the speech '*I confini delle periferie*', during '*X Giornate Italo-Argentine di diritto amministrativo – Politiche di sviluppo urbano*', held at the University of Salento on 10-11 May 2019, according to which smart cities can be an instrument of social inclusion of the space of the suburbs, understood as areas of the city that are likely to be excluded from urban and industrial development. Smart cities can become a tool for social inclusion if the infrastructure planned for their development leads to wider participation.

[26] J.B. AUBY, *The role of law in the lagal status and power of cities. Droit de la ville. An introduction*, in *Ital. J. Pub. L.*, 2013, 303, "the law of cities can be simply apprehended as the law applicable to the various essential dimensions of cities functioning: public and private spaces, infrastructure, land occupation, local economic development, local public services, local government, and so on. And it is possible to go through these various issues without too much wondering whether you are in the field of constitutional law, administrative law, planning law or whatever: you will even possibly come across private law issues, and still you will not have lost your way".

For this reason, it seems appropriate it seems appropriate to analyze so-called digitization of public administration in the Italian legislative context.

It is appropriate to underline that, according to foreign scholars[27], the Italian administrative system has been going through for years in a phase of secular stagnation with regard to technological development that moves on in small steps. This assumption also has an impact on public administrations, and the part of public authorities is essential in order to maximise the use of technology for the benefit of the community[28].

The choice to investigate the issue of the digitization of public administration is intended to lay legislative foundations and to emphasize legislative paths outlined and to be traced on the implementation of technologies functional to the exercise of public power, as a structural prerequisite for a rethink of the entire administrative action.

2. *Digitization processes of the Italian public administration*

Theme of evolutionary paths in the adoption of decisions and administrative choices has to deal with the issue of the digitization of public administration, reforms that have affected this aspect, to understand what are potential arrivals and which areas of action are not regulated.

The issue of digitalization raises significant challenges and legal questions, since it is not only a question of equipping the

[27] L. SUMMERS, *The age of secular stagnation*, in 3 *Foreign Affairs* (2016), 46 ff.

[28] P. OTRANTO, *La neutralità della rete internet: diritti fondamentali, interessi pubblici e poteri amministrativi*, in F.J. LACAVA, P. OTRANTO, A. URICCHIO (*eds*), *Funzione promozionale del diritto e sistemi di tutela multilivello*, Bari, 2017, 180 ff., the rapidity of the technological process imposed to the European and Italian legislators to try to pursue progress through legal discipline; T.E. FROSINI, *Internet, la libertà e la legge*, in *DPCE*, 2015, 15 ff.

administration with an *ICT* apparatus to make administrative action faster (even if this is not always the case) and more efficient[29]. The continuous technological evolution allows opportunities but also the need to provide new remedies to new problems that this challenge raises.

Like all reforms involving structural changes, including cultural changes, digitalization needs a long implementation period, for a number of reasons, which must be taken into account in the treatment. Digital innovation is not only about digitalization, but it involves something more significant, a new way of administration, of conceiving the administrative function. Digitization, as an organic process to be implemented, pushes administrations to plan services and actions differently[30].

The Italian governmental strategy (but the track is common to all European countries) provides for transversal actions, among which enabling platforms and programs to accelerate digitization are of primary importance[31].

Prime problem underlying the regulation of such supports is related to the setting of rules and guidelines that could become obsolete in a short time due to the continuous development of technologies. The subject is linked to what has been said in relation to the rapid obsolescence of the rules; if the legislator legislates with truly general and abstract rules, including in relation to technological development, this risk is reduced.

The subject must be addressed for two reasons, to understand which objective the administration must pursue, with a clear sacrifice of the others at stake. The first is that digitization is the basic support for the development of both cognitive and

[29] On this subject, see the study performed by P. PIRAS*, The role of computerization in efficiency and impartiality*, in E. CARLONI (*ed*), *Preventing corruption through administartive measures*, Perugia, 2019, 299 ff.

[30] J.B. AUBY, *Il diritto amministrativo di fronte alle sfide digitali*, in *Ist. fed.*, 2019, 619 ff., digitization-based administration faces micro and macro changes that call into question classic categories of same administrative law.

[31] The entire programme is available at *www.funzionepubblica.gov.it*

decision-making activity (and so is the support base of the developing administration) and the second is that it is appropriate to assess direction of legislative decisions on the subject to draw symptomatic indicators of what value the legislator wants to pursue in the main way.

Here too, digitalization, i.e. the creation of a new space for administrative action, can pursue different objectives, since the subject is not limited to the provision of technological tools for administrations, but is a matter of clear legislative policy guidelines.

For example, if on the one hand digitalization can make administrative action more efficient (at least in terms of administrative time), on the other hand values of knowability of administrative action and protection of privacy can prove to be compressed; the heterogeneity of purposes to which evolving administration is suited, both in terms of potential and risks, coes back.

All reforms concerning the digitization of public administrations have been marked by two main lines, namely economic growth[32] and administrative simplification.

On the subject of digitization and simplification, it is appropriate to make some prior explanations.

Firstly, continuous changes of rules on digitalization have not allowed them to be transposed by administrations that have not had time to adapt (the normative stratification mentioned above).

[32] M. BOMBARDELLI, *Informatica pubblica, E-government e sviluppo sostenibile*, in *Riv. it. Dir. pubbl. com.*, 2002, 993, according to which *ICTs* are essential to guarantee sustainable development and to ensure the growth of small companies; T.E. FROSINI, *Il diritto costituzionale di accesso a internet*, in *Munus*, 2011, 121 ff.; for a more backward reading, P. COSTANZO, *Aspetti e problemi dell'informatica pubblica*, in *Studi in onore di V. Uckmar*, I, Padova, 1997, 291 ff.

Secondly, rules adopted (at least until 2005, year of introduction of CAD) did not provide for minimum standards on the national territory, with areas of the territory more digitized than others.

After all, the objective of simplification was (again) betrayed and the final result was a further complication of administrative action[33].

The process of implementation of *ICT* used to support administrative action can have negative consequences if the law does not assure the relative maintenance of guarantees and the protection citizens' rights[34].

From this point of view, the process of digitization of public administration in Italy has always been seen as, on the one hand, the best possible solution, the remedy to all problems that afflict the public administration, on the other hand, a world of

[33] On the subject, in a wide meaning, see R. FERRARA, *Le «complicazioni» della semplificazione amministrativa: verso un'amministrazione senza qualità*, in *Dir. proc. amm.*, 1999, 323 ff.; always on the subject of administrative complications, even if they relate to economic activities, see C. PINELLI, *Liberalizzazione delle attività produttive e semplificazione amministrativa. Possibilità e limiti di un approccio giuridico*, in *Dir. amm.*, 2014, 355 (spec. paragraph no. 2); in a consistent manner, F. LIGUORI, *Semplificazioni e liberalizzazioni nelle riforme amministrative*, in S. TUCCILLO (*ed*), *Semplificare e liberalizzare. Amministrazione e cittadini dopo la legge 124 del 2015*, Napoli, 2016, 11 ff.

[34] I.M. DELGADO, *La riforma dell'amministrazione digitale: un'opportunità per ripensare la pubblica amministrazione*, in S. CIVITARESE MATTEUCCI, L. TORCHIA (*eds*), *La tecnificazione* (Vol. IV), in L. FERRARA, D. SORACE (*eds*), *A 150 anni dall'unificazione amministrativa italiana. Studi*, Firenze, 2016, 133 ff., the process of digitalization of the administration has three main consequences, namely making citizens more responsible for monitoring the administrative activities through transparency, the anticipation of the discretionary moment due to computerized decisions and the formal harmonization of administrations through the single databases. The use of technology for purposes of administrative law poses two challenges, one technical and the other legal. The first concerns the creation of systems designed to improve the effectiveness of administrative performance. The second one is to estabilish a legal regime that does not sacrifice citizens rights; G. DUNI (*ed*), *Dall'informatica amministrativa alla teleamministrazione*, Roma, 1992.

ambiguity, in which rights (even those protected constitutionally) take on a different, more shaded scope. Moreover, from a legal point of view, the issue has always been seen from the perspective of an *ICT* that stands between the public officer (and so the public administration) and the regulation to be applied, creating considerable inconvenience in terms of the certainty of administrative solutions and the relative protection (indissolubly linked to the regulation).

All these considerations have not always been taken into account in the legislation that over the years has governed the process of digitization of the administration.

In recent decades, public administration has assumed an active role for social development, but there is no doubt that in many cases public administration itself represents a dramatic weak point on the agenda of the States[35]. Technologies cannot be a miracle remedy, but public administrations are strategic users of the new *ICT*, in a context of increasing synchronization with other European countries also from this point of view[36].

[35] I. D'ELIA CIAMPI, *L'informatica e le banche dati*, in S. CASSESE (*ed*), *Trattato di diritto amministrativo. Diritto amministrativo speciale*, II, Milano, 2003, 1625 ff.; F. BASSANINI, *Twenty years of administrative reforms in Italy*, in 3 *Review of Economic Conditions in Italy* (2009), 2016, 369 ff.; B. MERCURI, *La digitalizzazione e la dematerializzazione nella Pubblica amministrazione*, in F. MANGANARO (*ed*), *Scienza delle pubbliche amministrazioni*, Napoli, 2018, 315 ff.

[36] In recent years, both at Italian and European level, there has been a proliferation of acts, documents, reports and consultations on the issue of the digitization of public administration. All the documents deal, in a more or less in-depth way, with the issue of the digital device, the need for a more informed institutional governance of the digital sector, the need to identify a centre of political and administrative imputation, the need for a clear regulatory framework. However, what seems to be missing is an overall vision, a perspective, aimed at exploiting the potential of *ICT* in a single direction for all the activities for which the administration is responsible. In this sense, one could take as a starting point the digitalization of the private sector, in which companies and private subjects are forced to adapt and become competitive also from a digital point of view, because it is imposed by the market rules.

For these reasons, the analysis must be carried out with particular attention to the European indications too, that have had a decisive influence on domestic rules for the administrative digitalization[37].

In this context, the role of the European law has assumed two different directions: on one hand through the issue of directives, on the other, through the implementation of policies and action plans to standardize digital processes in all Member States.

Similarly, the whole process of administrative informatization has addressed one main problems[38], that should be mentioned.

This is represented by the discrepancy between the so-called informatics culture and the Italian administrative tradition; a completely digitalized administration corresponds to an open administration and Italian advances in the field of administrative transparency are not yet complete, as will be seen in detail in the following analysis (*infra*, chapter 2).

Digitization, if understood as a factor in bringing citizens closer to administration, must be consistent with a clear legislative system on access to documents, re-use of data, the role of public databases, autonomous but interconnected issues. The other side of the argument is to hypothesize a totally obscure digitalized administration whose procedures are not known to citizens; here too, the neutrality of ends and boundaries between risk and opportunity fade away.

In this sense, two aspects dealt with in the course of the in-

[37] C. LEONE, *Il ruolo del diritto europeo nella costruzione dell'amministrazione digitale*, in *Riv. It. Dir. pubbl. com.*, 2014, 867 ff., it is clear that the European law has influenced national laws through the use of the Open coordination method, in order to set minimum standard common to all the states; in a compliant sense, but in a broader sense A. PAJNO, *Diritto europeo e trasformazioni del diritto amministrativo. Alcune provvisorie osservazioni*, in *Riv. it. Dir. pubbl. com.*, 2017, 466 ff.

[38] M. BOMBARDELLI, *Informatica pubblica*, quoted, 995.

vestigation (cognitive and decisional) perfectly represent the tensions between the values at stake.

In addition, other relevant obstacle faced was the equalization between digital administration and paper one, an obstacle that for years has been insurmountable for Italian administrative law. The paperless administration is only an instrumental step towards the achievement of efficiency objectives, which must be of primary importance[39].

In order to analyse in detail problems and choices of legislative policy underlying processes of digitization, it is advisable to make a subdivision, linked to historical periods.

A first part of the investigation is dedicated to the period between 1979 (year of publication of the 'Giannini Report', and awareness of the importance of the theme) and 2000 and the second part relating to the context from 2005 (key year for digitization policies, in Italy and Europe) onwards.

2.1 *The first season of digitization policies: opposition to changing in the public administration*[40]

As early as 1979, in the so-called 'Giannini report'[41], the ne-

[39] S. CASSESE, *Informatica e amministrazione pubblica*, in *L'informatica nello Stato. Atti del convegno promosso da CNR e Iri. Roma, 28 giugno 1978*, Roma, 1979, 31 ff.; A. PREDIERI, *Gli elaboratori elettronici nell'amministrazione dello Stato*, Bologna, 1971, 21 ff., as early as 1971 there was a lack of long-term vision by the Italian legislature in regulating those aspects; A. PREDIERI, *L'informatica nella pubblica amministrazione*, in *Dir. econ.*, 1971, 304 ff.; U. MARONE, *L'informatica nella pubblica amministrazione*, Napoli, 1998, 45 ff.

[40] In these terms, G. GALLI, *Introduzione*, in S. CASSESE, G. GALLI (*eds*), *L'Italia da semplificare*, Bologna, 1998; L. TORCHIA, A. PAJNO, *Governo e amministrazione: la modernizzazione del sistema italiano*, in A. PAJNO (*ed*), *La riforma del Governo*, Bologna, 2000.

[41] To appreciate the topicality of the text, the report is quoted by P. PROVENZANO, *Decreti Madia e nuova disciplina del c.d. domicilio digitale: quali prospettive?*, in *www.federalismi.it,* 2016, and the full text of the report is avaiable on *www.tecnicheinformative.it*; M. D'ALBERTI, *Giannini dalle pagine*

cessity to update technologies available both for public administrations and for public authorities was perceived as a problem. In this detailed report, it was pointed out that technological development had found Italian public administrations unprepared; among possible solutions proposed, the need to create indicators for administrative activity seems to be topical, since a single indicator could be created with the degree of digitization of different administrations (between which there are often deep distances).

In this initial phase, the support of information technology was limited to the reproduction of printed acts and the creation of databases, which, however, were not reliable and exhaustive. In other words, there was a real risk of a duplication of acts (in electronic and paper form) which could cause problems of legitimate trust on the part of citizens, rather than solving them[42].

At the beginning of the 1990s, with the enactment of Legislative Decree 12 February 1993, no. 39 the notion of tele-administration was implemented, even if the process of digitization had only just begun. The concept of tele-administration is based on the principle of equality between a digital act and a paper act, and not on the mere non-certified duplication of acts that already exist in paper form[43]. The aforementioned decree

dei giornali: il tracollo del sistema istituzionale e le riforme necessarie, in *Riv. trim. dir. pubbl.*, 2015, 909 ff.; F. LORENZONI, *Il rapporto Giannini sulla pubblica amministrazione*, in *Democrazia e dir.*, 1980. 153 ff.; S. SEPE, *Massimo Severo Giannini. Il Percorso di un riformatore (troppo) lungimirante*, Napoli, 2019.

[42] In these terms, please refer to S. PUDDU, *Contributo ad uno studio sull'anormalità dell'atto amministrativo informatico*, Napoli, 2006, 117.

[43] G. DUNI, *Teleamministrazione* (encyclopedic voice), in *Enc. Giur.*, XXX, Roma, 1993, 1 ff.; G. DUNI, *L'amministrazione digitale. Il diritto amministrativo nell'evoluzione telematica*, Milano, 2008; U. FANTIGROSSI, *Automazione e pubblica amministrazione*, Bologna, 1993; E. ZAFFARONI, *L'informatica nella pubblica amministrazione*, in *Foro. amm.*, 1996, 2616 ff.; for a pratical application, see A.D. GAGLIOTI, *Teleamministrazione e concorsi pubblici,* in *Giustizia amministrativa*, 2003, 621 ff.; as clarified by Cass., Sec. I, 28 December 2000, no. 16204, in *Dir. e form.*, 2002, (with note by A. MARTINI),

also had an impact on the organizational structure, since according to article no. 4, a special authority for information technology in public administration was established (namely *Autorità per l'informatica nella pubblica amministrazione*)[44].

Since that decree, computerization was no longer only related to the internal management of data and procedures by administrations, but it becomes a tool for joint exchange and governance between administrations and citizens.

From these first legislative acts on the informatization of administrative action, it was already clear that it was instrumental for the simplification, an abused term in the Italian legal language, especially when connected to the public administration, but in this case, the use of data-processing equipments seems to be a tool for simplifying administrative action[45]. As noted abo-

the computerization of acts of the public administration is directed primarily to the use of information technology tools to simplify and accelerate the issuance of administrative acts serial, which do not require specific reasons therefore susceptible to a complete computer processing that can not be implemented, as a rule, in conjunction with administrative measures that normally involve different assessments and reasons in relation to the particularities of the individual cases, with respect to which the computer tool can only be used as a means of supporting documentation of the activities of the bodies of the public administration; Cons. St., Ad. Gen., 24 February 1994, no. 1438, in *Cons. Stato*, 1995, 147, the indication in print, affixed to certain deeds, of the name of the person responsible makes up for the absence the handwritten signature does not also apply to measures, for which the handwritten signature is a requirement of legal existence, since it refers only to administrative certificates.

[44] Corte Conti, Sec. Contr., 23 December 1994, no. 150, in *Cons. Stato*, 1995, 748, this authority can be qualified as an independent authority, and represents a way of organizing itself according to the services that the State renders to the community (according to a form that has recently been gradually extended), which does not exclude (either logically or legally) that it is outside the public administration.

[45] About the relationship between simplification and digitalization, please refer to B.G. MATTARELLA, *Il procedimento*, in S. CASSESE (*ed*), *Istituzioni di diritto amministrativo*, Milano, 2015, 314, the strategy for simplifying administrative action must be coordinated with digitization policies; E. CASETTA, *La*

ve, digitalization reforms have brought more complication than simplification.

The so-called teleadministration process provided the eletronic form not only for the final measure, but for endoprocedural ones too[46].

difficoltà di semplificare, in *Dir. amm.*, 1998, 355, simplification can be achieved by systems that allow for the transmission of data between public administrations with interconnected systems. This is the best simplification that can be envisaged, as it does not entail any additional burden, either for individuals or for the administration, and it allows the administration to have certain data, which do not need to be verified later; P. LAZZARA, *Principio di semplificazione e situazioni giuridico-soggettive*, in *Dir. amm.*, 2011, 685, there is a close link between simplification and telematic interaction with the public administration, since objectives of publication on the web allow companies to obtain through the portal of the administration all the information related to participation. This kind of relationship between simplification and digitalization relieves the bureaucratic burden on businesses and facilitates private entities not present on the territory also in relation to access to the digital market; G. DE MAIO, *Semplificazione e digitalizzazione: un nuovo modello burocratico*, Napoli, 2016, 121 ff.; E. CARLONI, *La semplificazione telematica e l'agenda digitale*, in *Giorn. dir. amm.,* 2012, 708 ff.; D. DE GRAZIA, *Informatizzazione e semplificazione dell'attività amministrativa nel nuovo codice dell'amministrazione digitale*, in *Dir. pubbl.*, 2011, 611 ff.; R. MORZENTI PELLEGRINI, *Un nuovo strumento di semplificazione amministrativa: il documento elettronico*, in *Amm. It.*, 2003, 336 ff.; G. VESPERINI, *La semplificazione, politica comune*, in *Giorn. dir. amm.*, 2014, 1019 ff.; E. MASSELLA DUCCI TERI, *Il Codice dell'amministrazione digitale: come evolve la normativa*, in *AIDA*, 2006, 75, the process of innovation and public administration reform that has taken place in recent years has introduced a major administrative and structural simplification, with particular attention to possibilities of providing services over networks, especially due to great opportunities for communication between administrations and citizens provided by information technologies; F. BASSANINI, *Codice della pubblica amministrazione digitale. Luci e ombre*, avaiable on *www.bassanini.it*, 2005; D. MARONGIU, *Mutamenti dell'amministrazione digitale: riflessioni a posteriori*, in D. MARONGIU, I.M. DELGADO (*eds*), *Diritto amministrativo e innovazione: scritti in ricordo di Luis Ortega*, Napoli, 2016, 29 ff.; G.P. DORIA, *L'informaticrazia e il Codice dell'amministrazione digitale*, in *AIDA*, 2006, 81 ff.,

[46] S. PUDDU, *Contributo ad uno studio*, quoted, 2, the concept of *IT* administrative act was not (and perhaps is not yet) uniform, since it covers a

However, this issue should be seen in the context of the reform process which began in the early 1990s and which has affected all aspects of public administration, because the abovementioned Legislative Decree enacted in 1993 is the first legislative act devoted entirely to field of public information technology and it was a part of deeper and more radical framework of reforms that in 1990s interested Italian public administrations[47].

In this regard, which concerned the reform of arrangements for externalising administrative decision by electronic means, the *IT* tools had to be functional to the persuit of a more effi-

number of hypotheses in which official's decisions may have a more or less decisive effect on the final determination.

[47] For a comprehensive analysis of this issue, see S. CASSESE, *La riforma amministrativa all'inizio della quinta Costituzone dell'Italia unita*, in *Foro it.*, 1994, 249 ff.; A. POLICE, *Unresponsive administration e rimedi: una nuova dimensione per il dovere di provvedere della p.a.*, in *Antidoti alla cattiva amministrazione: una sfida per le riforme. Annuario AIPDA 2016*, Napoli, 2017, 253 ff.; M. CAMMELLI, *Amministrazioni pubbliche e nuovi mondi* (*Scritti scelti, ed* by C. BARBATI, M. DUGATO, G. PIPERATA), Bologna, 2019, 21 ff.; G. PASTORI, *Recent trends in Italian public administration, in Ital. J. Pub. L.*, 2009, 2 ff.; more recently, on the issue of administrative reforms and modernization, see M. SAVINO, *Le riforme amministrative: la parabola della modernizzazione dello Stato*, in *Riv. trim. dir. pubbl.*, 2015, 641 ff.; G. NAPOLITANO, *Le riforme amministrative in Europa all'inizio del ventunesimo secolo*, in *Riv. trim. dir. pubbl.*, 2015, 611 ff.; on the specific subject of digitalization reforms, please refer to M. CAMMELLI, *La pubblica amministrazione*, Bologna, 2014, 86 ff.; M. RAMAJOLI, *A proposito di codificazione e modernizzazione nel diritto amministrativo*, in *Riv. trim. dir. pubbl.*, 2016, 347 ff., the modern history of administrative law is above all made of structural reforms of the apparatus. The reform process is intended to adapt the administrative system and the action of the public administration to requirements of modernity; G. PIPERATA, F. MASTRAGOSTINO, C. TUBERTINI (*eds*), *L'amministrazione che cambia. Fonti, regole e percorsi di una nuova stagione di riforme*, Bologna, 2016; F. FRACCHIA, *La difficoltà di riformare l'amministrazione*, in *Riv. trim. sc. Amm.*, 2015, 40 ff.; M. CAMMELLI, *Amministrazione e mondo nuovo*, quoted, 12, the continuous reforms carry the risk of leaving the administration, and therefore the state, in a state of eternal transition; F. MERLONI, *Costituzione repubblicana, riforme amministrative e riforme del sistema amministrativo*, in *Dir. pubbl.*, 2018, 81 ff.

cient and less authoritative public administration. On this point, also on the basis of the difficult balancing of values mentioned above, it should be noted that a more efficient administration tends to be less sensitive to the needs of the citizen. About the tension between a more efficient administration and an administration closer to the citizen in relation to digitization, it is difficult to make a prior judgement, but it would be appropriate to evaluate different aspects related to the implementation of *ICT* and how they fit into the context of evolving administration.

To try to provide a first reading key, it should be noted that the entire set of rules adopted in those years were aimed at making the administration 'citizen oriented', inspired by a principle of citizen participation and governed by the principle of disclosure and, in this sense, the introduction of technological equipment is functional for the achievement of these reforms[48].

This aspect obviously has relevant aspects in the meantime of cognitive activity (in relation, for example, to the preliminary investigation and dialogue between administrations and the citizens) but it is less felt in the phase of adoption of adimistrative decisions.

As has been authoritatively pointed out[49], a radical change of the administrative action should derive from the use of new

[48] In this direction, see M. BOMBARDELLI, *Informatica pubblica*, quoted, 1001, according to which the introduction of *ICT* can play a driving role for the realization of reforms; for an analysis of the participating institutions and the underlying *ratio legis*, the reference is only made to R. CARANTA, L. FERRARIS, *La partecipazione al procedimento amministrativo*, Milano, 2000; G. VIRGA, *La partecipazione al procedimento amministrativo*, Milano, 1998; without any claim to completeness, due to the incredible up-to-dateness of the conclusions, reference should be made to the essays drafted by M. NIGRO, *Il nodo della partecipazione*, in *Riv. trim. dir. proc. civ.*, 1980, 225 ff. and F. LEVI, *Partecipazione e organizzazione*, in *Riv. trim. dir. pubbl.*, 1977, 1624 ff.

[49] E. CASETTA, *Manuale di diritto amministrativo*, V ed., Milano, 2003, 7 ff.

technologies and from the strengthening of e-government in relationships with citizens and firms[50].

Among most important innovations introduced by the Legislative Decree 39 of 1993, it is necessary to mention the duty for public administrations to interconnect their *IT* systems (article no. 2) and the duty to set up a centre of computerized communications with citizens (article no. 12). These two provisions for the implementation of digital policies were aimed at improving administrative action of the front office and back office, but at the same time, they are aimed at facilitating relations between the administration and citizens.

In addition, the Legislative Decree also contained a range of criteria and objectives that were to guide the overall development of these technologies within the administrative action.

In particular, the development of *ICT* had to be inspired by rationalization and interconnection and by the development of an internal project for each administration.

Aims of the Decree were to impove the quality of services for citizens, to make public activity more transparent, to improve knowledge support for citizens and to reduce costs of administrative action.

Afterwards, the article no. 15 of the Law 15 March 1997, no. 59 (better known as 'Bassanini Law') stated the legal equivalence between documents in electronic form and those in paper form. In the text of the 'Bassanini Law', it is perceived that technology is not only a support for the public administration, but must contribute to an improvement of relations with citi-

[50] The process of e-government in Italy started from the bottom up, to face the limited economic resources available through the optimization of technologies, as demonstrated by the experience of the Municipality of Bologna, which in 1995 created a portal for free access for citizens, with information and a system of dialogue between the administration and private citizens (please refer to D. HOLMES, *E.Gov. Strategie innovative per il Governo e la pubblica amministrazione*, Milano, 2002, 257 ff.).

zens[51]. In the 1997 law, perhaps for the first time in relation to digital policies for the public administration, there was the will to direct the tools of *ICT* to make the citizen involved and not only to improve the performance of the administration, with a fairly clear choice in this regard.

The law enacted in 1997 set out basis for a different conception of administrative procedure, more evolved and supported by technology, without sacrificing the right to citizen participation[52]. Digitization began to be seen as a bridge between government and citizens, changing the basic legislative philosophy, consistent with reforms of those years, all aimed at making citizens more aware of administrative action.

At this stage, the balance between values of citizen participation (perceived at the time as central) and the need for faster administration in implementation times seemed to have been achieved, even though 'Bassanini reforms' were incorporated with some difficulty by public administrations.

In 2000, the d.P.R. 28 December, no. 445 was enacted (the so-called Unified Text on administrative documentation), with the statement that the document drawn up in eletronic form

[51] F. DELFINI, *Forma e trasmissione del documento informatico nel reg. ex art. 15 L. 59/97*, in *Corr. Giur.*, 1997, 629 ff.; in a broader sense, R. VILLATA, M. RAMAJOLI, *Il provvedimento amministrativo*, Torino, 2017, 263 ff., the informatic document shall be treated as a written one on the basis of its quality, security and integrity features. The tendency to equate electronic communication with the traditional measure must also be read on the basis of the evolution of the regulations on the subject and it is precisely the 'Bassanini law' that has made it possible to interpret as valid and relevant all the acts adopted by the administration with the aid of *IT* tools, but signed with a digital signature, as a minimum condition aimed at guaranteeing the active legitimacy of the subject.

[52] Among objectives of this Law, in relation to the subject under examination, was the need to use the procedure in electronic form for certain types of procedures, an absolute novelty for the Italian legislative panorama, based at most on the equivalence between information technology and traditional administration.

complies with the requirement of written form for administrative acts[53].

The aim of this reform was to reduce burdens on the private sectors through a series of legal tools which would allow for simplification and equivalence between the *IT* act and the traditional (i.e. formal) administrative act, a real revolution, both in relation to duties of the administration and with a view to rethinking formal guarantees for citizens, which will be discussed in the following.

IT documentation can be used as a tool to streamline administrative procedures for two reasons; from the point of view of the structural nature of the documentation, because the packaging of the *IT* document is, in terms of compliance with requirements of formality, easier and faster (reduction of formality) and from the standpoint of dynamics of documentation, because the circulation of *IT* documentation is much swifter, but just as secure, than the circulation of paper documentation. The d.P.R. of 2000 was aimed at reducing bureaucratic formalities, simplifying administrative action as a whole, with the minimum sacrifice of private guarantees.

The objective of the 2000 text of the law appears to be minimalist, a reduction in the burden on citizens, offset by greater responsibility for them.

The first season of reforms in the field of digitization of public administration has had the effect of complicating some aspects but has marked some key points in the evolution of decision-making processes of the administration, among which it is necessary to mention the digitization oriented to participation, the cornerstone of administrative enquiry.

[53] For first comments on the rule, see G. FONTANA, *La nuova semplificazione delle certificazioni amministrative*, in *Amm. It.*, 2001, 345 ff.; please also refer to M. BOMBARDELLI, *Il potere di certificazione dell'amministrazione come funzione,* in *Giur. Cost.*, 1995, 4143 ff.

2.2 *European thrusts for digitalization and the Code of Digital Administration (CAD)*

All reforms envisaged up to 2000 had a programmatic scope but dealt with different aspects of digitization in a jagged manner

It is necessary to expect 2005 for an epochal change in the relationship between public administration and information systems. This date is not a coincidence, because, in 2005, European Union adopted the action plan called 'eEurope 2005[54]', with the aim to encourage the use of services provided by public administrations through Internet network[55].

There were two problems for the implementation of this plan: the first one was the so-called digital divide[56] and the second was the need to ensure the security of the citizen in his access to computer network[57]. These two issues do not seem to

[54] This plan was an update and a revision of the "eEurope – Action Plan" adopted in 2002; on the subject, see E. CHITI, M. GNES, *Cronache Comunitarie 2003*, in *Riv. trim. dir. pubbl.*, 2004, 737 ff.

[55] Please refer to G. GARDINI, *Rimettere il genio nella lampada: il problema di regolare Internet, un 'ribelle' per natura*, in V. BARSOTTI (*ed*), *Libertà di informazione, nuovi mezzi di comunicazione e tutela dei diritti*, Rimini, 2015, 61 ff.

[56] G. DE MAIO, *Semplificazione e digitalizzazione*, quoted, 76; A.M. BUONGIOVANNI, *Il digital divide in Italia*, in *www.astridonline.it*, 2003, 2, the expression 'digital divide' represents the disproportionate diffusion of access to computer networks; A. ACILAR, *Exploring the aspects of digital divide in a developing country*, in 11 *Issues in informing science and information technology* (2011), 231 ff., "the digital divide can be defined as the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access *ICTs* and to their use of the Internet for a wide variety of activities"; on the subject see G. SGUEO, *Punteggi, classifiche, premi: è possibile giocare con le politiche pubbliche*, in *Riv. trim. dir. pubbl.*, 2019, 591 ff., with an analysis of the impact of public policies on this issue, including in relation to the spread of clusters reducing this gap.

[57] On the subject, recently, see P.L. MONTESSORO, *Cybersecurity: conoscenza e consapevolezza come prerequisiti per l'amministrazione digitale*, in *Ist.*

have been resolved at the moment, as there are still major differences as to whether or not to use the Internet, and the issue of security in relation to Internet access raises many open questions that are still pending.

In relation to the epoch-making change recorded in 2005 in the field of *IT* support provided to public administrations, first and most importantly – and the placement of provision indicates its relative importance – the Law 15 February 2005, no. 15 added the article no. 3-*bis* in the Law 7 August 1990, no. 241 that stated that public administrations should encourage the use of *ICT* (both in internal relations and with private parties) in order to improve the efficiency of public action[58].

The rule has a programmatic nature, because it does not impose a specific obligation (the so-called result duty) to public administrations, but it correlates the use of technology with the achievement of efficiency, a ever-increasing relationship that will be deepened in the course of the investigation.

Also in order to coordinate such different aspects, moreover, again in 2005, it was enacted the Legislative Decree 7 April, no. 82, better known as the Code of Digital Administration (*CAD*), the first uniform set of rules on the subject of technology used in public administration, which plays a central role in relation to all

fed., 2019, 783, the theme, analyzed in chapter 2 *infra*, in relation to the Google Glass case, must be solved through an improvement of knowledge and awareness in the use of technologies by citizens.

[58] On the subject, see, in a broad sense, the analysis carried out by F. COSTANTINO, *L'uso della telematica*, in A. ROMANO, A. CIOFFI, C. ROMANO, M.G. DELLA SCALA, P. LAZZARA (*eds*), *L'azione amministrativa*, Torino, 2016, 242 ff.; S. DETTORI, *Articolo 3-bis. Uso della telematica*, in N. PAOLANTONIO, A. POLICE, A. ZITO (*eds*), *La pubblica amministrazione e la sua azione: saggi critici sulla legge n. 241/1990 riformata dalle leggi n. 15/2005 e 80/2005*, Torino, 2005, 175 ff.; P. PIRAS, *Verso il procedimento amministrativo elettronico*, in G. CLEMENTE DI SAN LUCA (*ed*), *La nuova disciplina dell'attività amministrativa dopo la riforma della legge sul procedimento*, Torino, 2006, 122 ff.; P. PIRAS (*ed*), *Incontri sull'attività amministrativa e il procedimento: itinerari di un percorso formativo*, Torino, 2006.

digital policies to be implemented, including in the search for a renewed space for action for public administration[59].

The Code was drafted with the purpose to enable a modernization of the administration founded on the implementation of principles of simplification and efficiency, with significant impacts also on the organizational profile of the administration[60].

The purpose of the 2005 Code was to reorder regulations that had interested the digitalization of the administration since 1997, the year in which the Bassanini law was issued.

However, it should be noted that the Code summarises two different ways of legislating which combine two different approaches to the relationship between legislation and digitisation, beyond objectives not achieved in terms of reordering existing rules.

The first approach is the one of technological neutrality[61], in which the regulation does not impose on the administration

[59] However, interest in this issue precedes these reforms, as witnessed by G. LIZZA, *L'organizzazione telematica della città: pubblica amministrazione, scuola, industria e cultura*, Pomezia, 1984, 23 ff.; G. DUNI, *L'utilizzazione delle tecniche elettroniche nell'emanazione di atti e nei procedimenti amministrativi. Spunto per una teoria dell'atto amministrativo*, in *Rivista amministrativa della Repubblica Italiana*, 1978, 407 ff; regarding the CAD, please refer to F.F. TUCCARI, A.M. TARANTINO, *Codice dell'amministrazione digitale*, Milano 2016; F. CARDARELLI, *Il codice dell'amministrazione digitale*, in *Libro dell'anno del diritto 2017*, Roma, 2017, 211 ff.

[60] As interpreted by P. PIRAS, *Organizzazione, tecnologie e nuovi diritti*, in *Dir. inf.*, 2005, CAD is an instrumental instrument for the administrative organization and the Author herself quotes, in this sense, G. BERTI, *La pubblica amministrazione come organizzazione*, Padova, 1968; in a divergent way, F. CARDARELLI, *Amministrazione digitale, trasparenza, principio di legalità*, in *Dir. inf.*, 2015, 227, according to which digital administration does not represent a complete model of organizational reference, due, among other things, to heterogeneity of sources that regulate these aspects.

[61] On the subject, for an extensive analysis, please refer to P. OTRANTO, *Net neutrality*, quoted, 5 ff.; M. INTERLANDI, *Neutralità della rete, diritti fondamentali e beni comuni digitali*, in *www.giustamm.it*, 2018; in a constitutionalist perspective, G. DE MINICO, *Net neutrality come diritto fondamentale di chi verrà*, in *www.costituzionalismo.it*, 2016.

which technology to use but sets objectives that, if achieved through *ICT*, make the use of *ICT* rightful. The danger of such an approach is the excessive indeterminateness of the norm and relative dangers in terms of legal certainty, however there is the advantage for public administrations to be able to use the most suitable technology for the purpose to be pursued and to remedy the obsolescence of *ICT*.

The second approach, on the other hand, relates to legislation by object in which the rules are clear and precise.

The original version of the Code provides the best possible summary of these two aspects, although the subsequent changes make it difficult to analyse how well this aspect holds up. The numerous amendments made over the years, often at the request of the European Parliament, have disfigured the original version of a law that is organic in its objectives and achievable for administrations.

One of the most significant aspects of the reform was the principle of operational continuity, since public administrations have to set up 'disaster recovery' plans, that in case of a crash of the *IT* systems, establish the technical measures to safeguard the working of the data processing stations[62]. The rule takes on central importance because for the first time the importance of digitalized administrative action is perceived and a tool is provided to protect administrative data from possible risks related to digital disruptions[63].

As mentioned above, objectives of reorganization of rules in the Code have been betrayal, since the text of the law has been modified several times, almost to the point of being distorted in comparison to its initial drafting. All these legislative amendments, often sudden between them, have not allowed administrations to comply with these modernization processes in time[64].

[62] D. DE GRAZIA, *Informatizzazione e semplificazione*, quoted, 617.

[63] On the subject, an interesting judgment is worth mentioning T.A.R. Abruzzo, Pescara, Sec. I, 27 January 2015, no. 37.

[64] The code of the digital administration has been modified with confu-

Among several reforms that have been carried out to amend the Code, the Legislative Decree 30 December 2010, no. 325 deserves to be reported[65]. This reform became necessary due to the discrepancy between provisions of the Code and the digital situation of Italian public administration[66].

Among most relevant changes introduced by the Legislative Decree no. 325, it is useful to mention the dematerialization of administrative documents[67] and the identification of an informatic document holding officer[68].

In addition, the presidency of the Council of Ministers

sing and inconsistent actions, on this topic, in general terms, see L. CARBONE, *Quali rimedi per l'inflazione legislativa. Abrogazioni e codificazioni in Italia*, in *Giorn. dir. amm.*, 2018, 629 ff.; on the necessity of a clear regulatory framework and specific targets in the relationship between *ICT* and administration, see M. BOMBARDELLI, *Informatica pubblica*, quoted, 996; A. ZICCARELLI, T. PARISI, *L'attività amministrativa digitalizzata e il suo codice*, in *Amministrazione e Contabilità dello Stato e degli enti pubblici*, 2005, 275 ff.; C. SAFFIOTI, *Il codice dell'amministrazione digitale è in vigore. Conoscere uno strumento che coinvolge la Pubblica Amministrazione, i cittadini e le imprese*, in *Amm. It.*, 2006, 887 ff., technological and regulatory development must mutually influence each other in a positive way.

[65] This legislative decree was issued on the basis of the article no. 33 of the Law 18 June 2009, no. 69, that contained provisions for the economic development and competitiveness. The deficiency encountered in the Code of 2005 was the limited capacity to condition the state of compliance of administrations, as there were no penalties in the case of lack of adjustment. For these reasons, the Law 69 of 2009 has provided for legal instruments to sanction administrations; the 2010 amending decree was preceded by the issue of a ministerial decree on 22 December 2010, which provided funds to the department for the digitalization of the public administration for a series of projects functional to the actual implementation of an organic public digital model.

[66] The issue still seems topical as demonstrated by E. CARLONI, *Digitalizzazione pubblica e differenziazione regionale*, in *Giorn. dir. amm.*, 2018, 698 ff.

[67] On this issue, please refer to P. CIOCCA, F. SATTA, *La dematerializzazione dei servizi della p.a. Un'introduzione economica e gli aspetti giuridici del problema*, in *Dir. amm.*, 2008, 283 ff.; A. DELL'ORFANO, *La dematerializzazione dei rapporti con la p.a.*, in *www.federalismi.it*, 2016.

[68] For a detailed analysis of the reform, see E. CARLONI, *La riforma del Codice dell'amministrazione digitale*, in *Giorn. dir. amm.*, 2011, 469 ff.

adopted the 'Digital Growth Strategy 2014-2020', that will be analyzed in the paragraph *infra* 3.2, in a perspective of using digitalization as a factor of economic and social transformation. The digitalization process must not stay isolated but it must be carried out in synergy with other development policies, through vertical (between administrations and citizens) and horizontal (between various public administrations) coordination initiatives.

Moreover, at the European level, the transition to full digitalization required a radical transformation to which European governments and administrations were not ready.

Because of this impasse, both at domestic and European level, albeit for radically different reasons, the European Union adopted the strategy 'Europe 2020', an European agenda that emphasises inclusive growth as a way to overcome the structural weaknesses in Europe's economy, to be understood as a model of competitiveness also of the public sector, and in this sense we tend towards decision-making processes for administrations that are more responsive to needs of citizens and the market (the reference to the market is particularly marked in the European Agenda).

3. *Digital strategies: European Digital Agenda and Italian Digital Agenda*

The awareness acquired about the importance of digitization and innovation for public administrations, both at European and national level, in view of the economic crisis[69] and the

[69] On the subject, for the purpose of the survey conducted, it is necessary to refer to F. MERLONI, A. PIOGGIA (*eds*), *European democratic institutions and administrations. Cohesion and innovation in times of economic crisis*, Berlin, 2018; about the role of the administrations within the economic crisis, see M.P. CHITI, *La crisi del debito sovrano e le sue influenze per la governance europea, i rapporti tra Stati membri, le pubbliche amministrazioni*, in *Riv. it. Dir.*

standstill in technological development led institutions to schedule measures to be applied over a long-term period[70]. This long-term vision enables administrations to adapt structures and knowledge and to avoid past problems through continuous reforms, which in fact have never been fully absorbed by the public decision-maker.

Although European guidelines led to the promulgation of Italian digital project, the European Digital Agenda and the Italian Agenda are extremely different between them, both in terms of objectives and as a historical era of legislative adoption. While both strategies represent a driver of economic growth, the Italian strategy has had to face a digital delay in an administration that is not in line with European standards[71].

For these reasons, two strategies should be analysed in an autonomous way, even if some common traits obiousare shared. Among these shared elements, it is important to mention problems that these strategies are intended to solve that are digital divide problems[72] and partial development of broadband.

pubbl. com., 2013, 1 ff.; G. NAPOLITANO (*ed*), *Uscire dalla crisi. Politiche pubbliche e trasformazioni istituzionali*, Bologna, 2012; L. DE LUCIA, *La costituzionalizzazione del diritto amministrativo italiano nella crisi economica e istituzionale*, in *Pol. dir.*, 2019, 3 ff.; L. TORCHIA, *In crisi per sempre? L'Europa fra ideali e realtà*, in *Riv. trim. dir. pubbl.*, 2016, 617 ff.

[70] On the need to orient public administration reforms in a long-term way, see G. NAPOLITANO, *Breve e lungo periodo nel diritto amministrativo*, in *Giorn. dir. amm.*, 2005, 7 ff., the reforms made in recent years have been inspired by emergency logic rather than attempting to solve the serious problems that affect public administrations.

[71] For a comprehensive and contemporary survey on the subject, please refer to A. PAJNO, *Crisi dell'amministrazione e riforme amministrative*, in *Riv. it. Dir. pubbl. com.*, 2017, 549 ff.

[72] L. CASSETTI, S. RICCI, *L'agenda digitale europea e la riorganizzazione dei servizi di welfare nazionale: le nuove frontiere dei diritti sociali nella knowledge based society*, in *www.federalismi.it*, 2011, 3 ff., digital inclusion and exclusion corresponds to social inclusion and exclusion, and, for these reasons, the Commission has set digital learning as one of its objectives. The structural framework of the concept of the digital society is based on a substantial equa-

In this respect, both the planned strategies, at both EU and national level, show a preference for the creation of a digital space aimed at the creation of a single market space with direct benefits for businesses, through strategies that do not take into account the positions of citizens that stand in the background.

In view of evolving administrations and objectives to be pursued, the Digital Agenda (especially the EU one, but also implemented by the Italian one in the three-year plan 2019-2021[73]) introduces the concept of Smart Landscape. With the Smart Landscape model, the transition from a static model, with citizens and businesses at the centre, to a dynamic model of governance of relations between entities is underway.

It is obvious that in this context of rethinking relations between institutions and citizens there are also repercussions for the decision-making phase of public administrations, no longer lowered from above but participated in or supported by tools that bring together citizens and administrations.

This point seems central, because through the new model of administration that is developing a key factor is rethought, namely the administrative organization. An administration by territory is still current, or the new model allows it to be refocused[74]. The subject is extremely delicate, and it is limited to

lity between citizens, that becomes digital equality; S. CIVITARESE MATTEUCCI, L. TORCHIA, *La tecnificazione dell'amministrazione*, in S. CIVITARESE MATTEUCCI, L. TORCHIA (eds), *La tecnificazione* (Vol. IV), in L. FERRARA, D. SORACE (eds), *A 150 anni dall'unificazione amministrativa italiana. Studi*, Firenze, 2016, 20, one of the purposes to be achieved with the Digital Agenda for Europe is economic development and the creation of jobs, because while on the one hand *ICT* affects social and institutional structures, on the other hand it is appropriate to establish long-term and mutually coordinated policies.

[73] Please see *www.agid.gov.it.*.

[74] Please refer to J.B. AUBY, *Il diritto amministrativo di fronte*, quoted, 624, which refers in this regard, among the so-called macro effects of the digitization are the impact on relations between levels of territorial administration; about the relationship between modernization and recentralization, see F. MASTRAGOSTINO, *Introduzione*, in *L'amministrazione che cambia. Fonti,*

saying that the subdivision by territory must be rethought, but it is opportune to coordinate developments, in order to avoid inequalities that could – in the entirely interconnected administration – cause black holes.

This disproportion in the territory can cause considerable inequalities in the knowledge available to administrations when adopting decisions.

According to this interpretation, the principle of the unity of the administrative function[75] can be applied to digitization,

regole, percorsi di una nuova stagione di riforme, Bologna, 2016, 20 ff.; in a compliant sense, see G. PIPERATA, *I poteri locali: da sistema autonomo a modello nazionale e sostenibile*, in *Ist. fed.*, 2012, 503; G. PESCE, *Digital first. Amministrazione digitale: genesi, sviluppi, prospettive*, Napoli, 2018, 111 ff., IT coordination could lead to a return to centralism, in critical terms. The organization in the digital sense intercepts a series of issues, including technical regulations, internal standard procedures, modernization of infrastructure that require a competence that goes beyond the mere connection; the digital first is a process of complex change, requires a centralized and unified direction but at the same time respecting the organizational autonomy of the Regions; in a partially compliant sense, see M.L. MADDALENA, *La digitalizzazione della vita dell'amministrazione e del processo*, in *Foro amm.*, 2016, 2535 ff.; P. OTRANTO, *Internet nell'organizzazione amministrativa. Reti di libertà*, Bari, 2015; in a different perspective, namely that of rights to be protected, regarding the new relationship between territory and digital regulation, see O. POLLICINO, *L'autunno caldo della Corte di Giustizia in tema di tutela dei diritti fondamentali in rete e le sfide del costituzionalismo alle prese con i nuovi poteri in ambito digitale*, in *www.federalismi.it*, 2019.

[75] G.D. COMPORTI, *Il principio di unità della funzione*, in M. RENNA, F. SATTA (*eds*), *Studi sui principi del diritto amministrativo*, Milano, 2012, 307 ff.; M.R. SPASIANO, *La funzione amministrativa: dal tentativo di frammentazione allo statuto unico dell'amministrazione*, in *Dir. amm.*, 2004, 297 ff.; on the subject, see the perspective provided by G.C. DE MARTIN, *Prospettive di riorganizzazione delle amministrazioni territoriali tra Stato nazionale e integrazione europea*, in R. CAVALLO PERIN, A. POLICE, F. SAITTA (*eds*), *L'organizzazione delle pubbliche amministrazioni tra Stato nazionale e integrazione europea*, in L. FERRARA, D. SORACE (*eds*), *A 150 anni dall'unificazione amministrativa italiana. Studi*, Firenze, 2016, 625 ff., in a perspective of dissolution or rethinking of the current organizational structure; in a consistent manner with these interpretations, G. PASTORI, *Statuto dell'amministrazione e disciplina legislativa*, in *Annuario AIPDA 2004*, Milano,

from the core of which it follows that the articulation of the apparatus, beyond the division of competences, must lead to unitary operational results.

This argument is supported by a ruling of the Constitutional Court asked to rule on the legitimacy of the 'Madia law', regarding the delegation for the reform of CAD[76]. According to the Court, by virtue of article no. 117, paragraph 2, letter r of the Constitution, provisions on the Italian Digital Agenda are instrumental to ensure a uniformity of languages, procedures and standards, so as to allow communication between the information systems of public administration.

These rules also meet the primary need to offer citizens uniform guarantees throughout the country, in access to personal data, as well as services, a need that also borders on the definition of essential levels of performance.

However, it should be said that through the Smart Landscape paradigm there is a shift from a static model, with citizens and businesses at the center, to a dynamic model of governance of relations between entities; in this sense, the position of the individual is downgrading with respect to intersubjective development between legal entities with the risk of making less effective the participation of the private sector in the phase of public decision.

2005, 11 ff; G. PASTORI, *Pluralità e unità dell'amministrazione*, in G. MARONGIU, G.D. DE MARTIN (*eds*), *Democrazia e amministrazione in ricordo di Vittorio Bachelet*, Milano, 1992, 99, there are many different models of administration in the Constitution, but the idea of administration is unique, and this aspect cannot be recessive even in the face of current processes of change in public administration; in a way that is not consistent with this approach, G. BERTI, *Il «casuale» nell'amministrazione pubblica*, in in G. MARONGIU, G.D. DE MARTIN (*eds*), *Democrazia e amministrazione in ricordo di Vittorio Bachelet*, Milano, 1992, 123, the administration has never been unitary, this unity has been the result of abstract thought.

[76] Corte Cost., 25 November 2016, no. 251, in *Giur. Cost.*, 2016, 2195 (with note by G. SCACCIA and by M. GORLANI) and in *Foro it.*, 2017, 451, (with note by G. D'AURIA).

3.1 *European Digital Agenda: digital services and social inclusion*

As mentioned above, European digital strategy has always had a strong economic imprint, but in this sense a degree of competitiveness cannot be achieved if the decision-making process of the administration is not optimised.

Although European Union is aware of the strategic role of digitization of the administration, it has taken a long time to prepare an incisive and punctual policy action on the subject.

The first organic initiative in the field of telecommunications took place in 1987, with the publication of '*Green paper on the convergence of the telecommunications, media and information technology sectors and the implications for regulation*', that aimed to enhance the comprehension of and to encourage discussion on the development of the new phenomenon of convergence in the field of telecommunications, media and information technology sectors with a view to providing a coordinated approach towards Information Society. In this first phase, purely conceptual, intention was only programmatic, to stimulate institutional discussions on issues related to digitization.

Since 2010, European Commission has launched a comprehensive digitisation project, launched with COM (2010) 245, which gave rise to the 'Europe 2020' strategy. Aims of the Digital Agenda were purely commercial and aimed at the digitalization of purchasing procedures and the creation of a single market[77].

[77] EUROPEAN COMMISSION, *A digital agenda for Europe*, COM (2010) 245, 28 August 2010, avaiable on *www.eur-lex.europa.eu* (2010), "The objective of this Agenda is to chart a course to maximise the social and economic potential of *ICT*, most notably the internet, a vital medium of economic and societal activity: for doing business, working, playing, communicating and expressing ourselves freely. Successful delivery of this Agenda will spur innovation, economic growth and improvements in daily life for both citizens and businesses. Wider deployment and more effective use of digital technologies will thus enable Europe to address its key challenges and will provide Europeans with a better quality of life through, for example, better health care,

The Digital Agenda for Europe is part of the broader 'Europe 2020' strategy (it is one of the seven pillars of this policy), this is the slogan that represents a long-standing policy in which the key role of administrations must be read in an efficient way.

However, the main point of interest for this analysis is the so-called smart growth in order to develop an economy based on knowledge, innovation and the circulation of data among the public actors; the aim is to make a greater wealth of knowledge available to decision-makers (although European focus is mainly on the market patterns).

The Digital Agenda for Europe aims to generate social and economic benefits for EU citizens through a Digital Single Market[78], based on telematic and computer systems available for everyone.

In other words, one of the most important purposes of European Agenda is to make the use of new technologies (more specifically, of digital market services) available to all citizens[79]. The usability of systems, the transversal knowledge of potentialities of the use of *ICT* seems to be the starting point of this reform policy, wide-ranging, but with precise objectives.

The European agenda closely connects the development of

safer and more efficient transport solutions, cleaner environment, new media opportunities and easier access to public services and cultural content".

[78] EUROPEAN COMMISSION, *A digital agenda for Europe*, COM (2010) 245, 28 August 2010, avaiable on *www.eur-lex.europa.eu* (2010)*,* "The internet is borderless, but online markets, both globally and in the EU, are still separated by multiple barriers affecting not only access to pan-European telecom services but also to what should be global internet services and content. This is untenable. First, the creation of attractive online content and services and its free circulation inside the EU and across its borders are fundamental to stimulate the virtuous cycle of demand. However, persistent fragmentation is stifling Europe's competitiveness in the digital economy. It is therefore not surprising that the EU is falling behind in markets such as media services, both in terms of what consumers can access, and in terms of business models that can create jobs in Europe".

[79] L. ROMANI, *La strategia 'Europa 2020'*, quoted, 574 ff.; L. CASSETTI, S. RICCI, *L'agenda digitale*, quoted, 3 ff.

the digital market and the implementation of social policies, through a complex equilibrium of values. The European Commission, through an audacious programme, is attempting to support the development of the market and, equally, social inclusion, two objectives which could be mutually excluding.

The role of the administration, in this delicate balance, can be to find a compromise between these two aspects, which risk being mutually exclusive.

The digital market can be used as a possible solution for the economic crisis, since it indirectly also promotes social development, even if it is appropriate to evaluate welfare measures linked to the situations of the single Member States. The Digital Single Market (*DSM*) is based on a digital strategy that provides universal access for all citizens and firms, then to ensure social and digital inclusion, with measures to safeguard digital security and trust.

Member States may not confine their efforts to the adoption of programmatic or non-coercive measures but must guarantee such digital inclusion in a material manner, in accordance with provisions provided by European Union.

Achieving this inclusive governance can be obtained through free access to digital contents in order to ensure the so-called interoperability of databases, without compromising the right to privacy and security of personal data, which is a key question of this issue[80].

One of the key points of the Agenda, on which there will be a detailed study, is the awareness that the data held by the administration can constitute a real asset. The data and the information in digital form have a role for the social and economic development and progress, even if the topic is not recent, because it had already been regulated by a European Directive issued in 2003[81].

[80] See S. CASSESE, *Il concerto regolamentare europeo delle telecomunicazioni,* in S. CASSESE (ed), *Lo spazio giuridico globale*, Roma-Bari, 2003, 188 ff.

[81] EUROPEAN COMMISSION, Directive 2003/98/EC, 17 November 2003,

European Commission, in a communication of 2011[82], that supplemented the European Agenda, underlined the necessity to update European laws concerning re-use of data, to encourage financial instruments for open data and to improve harmonization between various Member States.

on the re-use of public sector information, full text avaiable on *www.eur-lex.europa.eu* (2003), according to which "the evolution towards an information and knowledge society influences the life of every citizen in the Community, *inter alia*, by enabling them to gain new ways of accessing and acquiring knowledge" and "a general framework for the conditions governing re-use of public sector documents is needed in order to ensure fair, proportionate and non-discriminatory conditions for the re-use of such information. Public sector bodies collect, produce, reproduce and disseminate documents to fulfil their public tasks. Use of such documents for other reasons constitutes a re-use. Member States policies can go beyond the minimum standards established in this Directive, thus allowing for more extensive re-use"; F. GASPARI, *L'agenda digitale europea e il riutilizzo dell'informazione del settore pubblico. Il riutilizzo dei dati ipotecari e catastali*, Torino, 2016, 17 ff.; on the subject of document management, see M.P. GIOVANNINI, *Le iniziative del Governo in tema di gestione documentale e trasparenza degli atti amministrativi*, in D. PIAZZA (*ed*), *Il protocollo informatico per la pubblica amministrazione*, Rimini, 2003, 121 ff., the replacement of paper model must not become an additional burden for public administration, but these innovations must be supported by an appropriate organisational apparatus.

[82] EUROPEAN COMMISSION, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and te Committee of Regions, *Open data. An engine for innovation, growth and transparent governance*, COM (2011) 882, 12 December 2011, avaiable on *www.europarl.europa.eu* (2011), 7 ff., "despite the minimum harmonisation in 2003 through the Directive on the re-use of public-sector information, significant differences in national rules and practices persist. This leads to fragmentation of the internal information market and hinders the creation of cross-border information services." and "differences are the clearest with respect to charging, with cost recovery practised in some cases and re-use free or practically free in others. An analysis of recent studies indicates that from a macro-economic point of view the open data model leads to better overall results. A series of case studies on public sector bodies that moved from full cost recovery to a marginal costs system show that the move not only increased re-use, but also benefited the public sector bodies concerned. Moreover the open data approach eliminates possible monopolistic tendencies based on single-source data".

In addition, in order to guarantee a more exhaustive protection, in order not to affect the value of privacy, Member States are forced to adopt measures in order to avoid cyber attacks and ensure the so-called digital security.

In the same way, European Digital Agenda has provided for a series of measures aimed to reduce the digital divide and to promote digital education of the citizens. From this point of view, it is appropriate to have uniform coordination between all Member States in order to spread digitalization uniformly throughout Europe.

All European strategies in digital terms have administration in the background but the role it can play is ineluctable, not just as a mere support, but as a conscious and rapid player for the market but also for the other values pursued. In other words, the issues of market competitiveness and administration seem to be complementary.

3.2 *Italian Digital Agenda and economic growth: the (partly) betrayed revolution*

In this part of the report it is intended to provide an account of the unitary set of rules on the Italian Digital Agenda, in relation to the most relevant provisions, without claiming to be exhaustive in relation to the provisions disseminated in various texts of law (including, sometimes, annual budget laws).

The need to provide public apparatus with adequate digital support must pass through several steps, including an integrated vision of issues involved, a policy of coordination between various bodies, integration and sharing of data; governing the digital transformation requires to adapt the speed of decision-making and executive processes to that of innovation imposed by *ICT* technologies characterized by rapid changes, sometimes even radical. Therefore, dynamism must be recovered if the transformation is to be managed, taking advantage of the op-

portunities offered by digitization to manage the growing complexity of data systems, starting with dematerialization and the simplification of many repeated requirements for businesses and citizens[83].

Italian Digital Agenda, as previously mentioned, is designed and developed in a different way and it was enacted by the Decree Law 9 February 2012, no. 5, that contained urgent provisions for simplification and economic development of the country; once again, there was this inseparable link between simplification and digitization (at least in the policy objectives).

In this sense, it is perceived an intent that is missing in the European Digital Agenda, namely the need to make digitization more usable for citizens, compared to the commercial intent of the European Agenda.

The 2012 reform was citizen-oriented and should have benefited from a number of provisions that would have made administrative action clearer, although perhaps in some respects less efficient (the link between the two is clear).

The aim of this decree was to improve the relationship between the administration and the private sector, both at national and local level, through the upgrading of existing digital tools and incentives for the use of technologies[84].

This aspect is decisive in terms of the development of the decisional phase, in terms of knowledgeability for citizens and incentive for a widespread digitalization on the territory (aimed at faster and more aware decisions).

[83] See the annual report ITALIADECIDE, *Rapporto 2016. Italiadigitale: 8 tesi per l'innovazione e la crescita intelligente*, Bologna, 2016, efficient models of digital transformation are those that most easily share and disseminate knowledge to support the organization; they are those that build bridges between strategic knowledge of leadership, professional knowledge of insiders and expert design knowledge, stimulating interaction both within and outside the organization.

[84] See R. CARPENTIERI, *L'Agenda digitale italiana*, in *Giorn. dir. amm.*, 2013, 223 ff., compared to the simultaneous European scenario, there is a significant delay in the process of digitization of the Italian public administrations.

Among priorities identified by Italian Agenda, it is pertinent to highlight the importance of an integrated strategy between State and Regions, for an interinstitutional synergy required in order to achieve the set objectives. Objectives are set out in a transversal way and, in addition to the pursuit of efficiency in public action, digitalization process aims to reduce the costs of an isolated and unintegrated public administration; the aim is to avoid the Tibetan segregation of public administrations.

Article no. 47 of the Decree Law no. 5 has provided to set up a kind of control room[85] in order to coordinate the strategic actions and the modalities for the implementation of this national digital agenda. Such interministerial control room is formed by six working groups, in order to support the realization of technological and immaterial infrastructures at the service of the so-called 'smart communities'. With regard to this particular issue, it was noted that objectives held by this entity were extensive but were not sufficiently funded[86].

One of the most important tasks assigned to this entity is the promotion of Open Data as a model for the promotion of public information assets, in order to create innovative tools.

In this sense, Open Data can be defined as a development of the Open Government strategy, that allows the administration to become an active partner in the search for solutions and services no longer as a one-sided actor, but in a shared way with citizens. In other words, this inclusive digital policy converts the citizen from a passive user of the services offered by the public administration to an active subject, i.e. a kind of co-producer of the administrative action.

In this regard, it is necessary to indicate Legislative Decree 22 June 2012, no. 83, that provided a digital Open Government

[85] G. FINOCCHIARO, *Una cabina di regia per l'Agenda digitale italiana*, in *Guida al diritto*, 2012, 46 ff.; see also *www.mise.gov.it*.

[86] E. CARLONI, *La semplificazione telematica*, quoted, 713, the tasks attributed to this control room are ambitious and various, but are not supported by a specific budget allocation.

strategy inspired by total disclosure of those measures that bring economic benefits to citizens.

This total disclosure, on the other hand, allows an improvement in the cognitive activity, because it allows the citizen to assist the factors of lack of knowledge for public administrations, in relation to the process of co-production of the administrative activity mentioned above.

In the same way, this decree provided for the establishment of a special Agency[87] (namely *Agenzia per l'Italia digitale*) that provides *IT* coordination for state, regional and local government, in this context, the Agency must also contribute to the promotion of the use of *ICT* in order to promote innovation and economic growth.

Furthermore, in addition, it develops policies, technical regulations and directives for the full interoperability and uniformity of public administration information systems[88].

As clarified by a judgment issued by the Constitutional Court[89], the Agency has not only an *IT* coordination role but also planning tasks for the strategic evolution of the information system held by public administrations as well as the preparation of the information technology plan with content that is not merely programmatic but also specific and punctual.

[87] The Agency is part of the general model provided for the Agencies by Legislative Decree 30 July 1999, no. 300, which provides for tasks of national interest, both technical and operational e, with a wide autonomy for them. The Agency is a prime ministerial structure, with a great deal of autonomy, without having legal personality and in line with the political and administrative policy in force (for a complete analysis, see F. MERLONI, *Il nuovo modello di agenzia nella riforma dei ministeri*, in *Dir. pubbl.*, 1999, 717 ff.).

[88] E. CARLONI, *Il potenziamento dell'Agenda digitale italiana*, in *Giorn. dir. amm.*, 2013, 1151 ff.

[89] Corte Cost., 11 May 2018, no. 97, in *Giur. Cost.*, 2018, 1060, the Special Commissioner for the implementation of the Digital Agenda (nominated by the President of the Council of Ministers), has also powers of operational coordination, but also decision-making and replacement powers for management and administrative failure.

This Agency is the main protagonist of digitalization policies of the administration, as a central subject in a renewed governance, with the attribution of supervisory tasks in relation to the quality of the services provided and of rationalization of public costs for information technology.

However, with regard to objectives just mentioned, there are still many critical issues, in a subject that is reserved to the exclusive competence of the State (informative and informatic coordination, article no. 117, subparagraph no. 2, letter r) of the Constitution).

First of all, there is no rule for the coordination with tasks assigned to the interministerial control room.

Moreover, tasks assigned to the Agency in order to implement the open data system appear to be totally unrelated to the corresponding (and controversial) development of the issue of administrative transparency in Italy.

Within the Italian Digital Agenda is placed the Strategy for 'Digital Growth 2014-2020', a dynamic and long-term policy, flexible in order to adapt to the changes that have occurred during the six years of development[90].

This strategy is based on the coordination of all digital transformation interventions beteween State and Regional level, the implementation of 'Digital First' principle and the search for solutions to reduce the costs of digital administrative activity according to the logic of joint planning to define plans and standards to be followed at National level.

With regard to key aspects of the research, the Italian Agenda structures a clear legislative path in terms of Open Data and disclosure, decisive aspects for cognitive activity performed by public administrations. With regard to administrative decisions, territorial coordination allows (at least as far as intentions are concerned) a single level of quality of decision (in terms of

[90] The full text of the strategy is avaiable on *www.agid.gov.it*. The 2014-2020 Digital Strategy was drafted after a long consultation process with public and private stakeholders.

choice, timing), a positive aspect in order to avoid those territorial differences that are incompatible with the principle of unity of the administrative function.

The proposed targets of the Digital Agenda appear ambitious and fully in line with the European aims, but the Italian stratification and regulatory disorder should not make this plan a betrayed (digital) revolution, with obvious and significant negative consequences for both cognitive and decision-making activities.

4. *The 2015 reform and future scenarios*

Law 7 August 2015, no. 125 (also known 'Madia Law') opened a new season of reforms for Italian public administration, through a mandate to the government to amend certain key aspects of the administrative action[91].

The reform does not directly address neither the cognitive aspect in the aspect of decisions, but provides some references on the subject of digitization, functional to the improvement of these aspects.

Article no. 1 of the Law, rubricated 'Digital Citizenship', delegated the government to adopt legislative decrees to guarantee citizens and firms the right of access to all data, documents and information, including services, in digital mode. In addition, the government was delegated to amend the existing *CAD*, through the provision of incentive plans for the administrations that use

[91] Among the various comments on the law, please refer to G. CORSO, *La riorganizzazione della P.A. nella legge madia: a survey*, in *www.federalismi.it,* 2015; A. POGGI, *La legge Madia: riorganizzazione dell'amministrazione pubblica*, in *www.federalismi.it*, 2015; B.G. MATTARELLA, *Il contesto e gli obiettivi della riforma*, in *Giorn. dir. amm.*, 2015, 621 ff.; F. FRACCHIA, *Riforma Madia: una rivoluzione copernicana?*, in S. TUCCILLO (*ed*), *Semplificare e liberalizzare. Amministrazione e cittadini dopo la legge 124 del 2015*, Napoli, 2016, 27 ff.; E. FOLLIERI, *La riforma della pubblica amministrazione nella l. 7.8.2015 ed il ruolo della dottrina*, in *www.giustamm.it,* 2015.

ICT, and, above all, the Government must redefine administrative proceedings in terms of timeliness, certainty and transparency on the basis of 'digital first' principle[92].

The circumstance that the most comprehensive public administration reform plan of the last decade provides for digitization in the first rule is evocative of how central the issue is in the current debate.

In other words, one of the objectives of the 2015 reform was to encourage the use of *ICT* both for internal relationships between administrations (public or horizontal relationships) and for the relations between administrations and individuals (vertical relationships). These two aspects of the reform are perfectly summarised in criterion 'd)', which states that the public connectivity system must be redefined in order to simplify (once again, simplification, an abused word whose reforming scope has been lost) rules for cooperation between administrations and to encourage private participation.

Interconnection between different public administrations is a concrete application of the principle of loyal cooperation between administrations, one of the key pillars of Italian administrative law[93].

With regard to relations between various public administrations, the so-called 'back office' relations, the use of technologies must be a factor of efficiency, on condition that the resi-

[92] E. CARLONI, *Tendenze recenti e nuovi principi della digitalizzazione pubblica*, in *Giorn. dir. amm.*, 2015, 148 ff., 'digital first' is a fundamental concept whereby the service must be planned, designed and delivered in digital form; C. LEONE, *Il principio del 'digital first': obblighi e diritti in capo all'amministrazione e a tutela del cittadino. Note a margine dell'art. 1 della legge 124 del 2015*, in *www.giustamm.it*, 2016; F. CAIO, *Lo Stato del digitale*, Padova, 2014, 8 ff.; G. PESCE, *Digital first,* quoted, 209 ff.

[93] Recently, about this issue, please refer to A. ALAIMO, *La 'Riforma Madia' al vaglio della Corte Costituzionale. Leale collaborazione e intese possono salvare la riforma della pubblica amministrazione*, in *Diritti Lavori Mercati*, 2017, 145 ff.; A. MEALE, *Il principio di leale collaborazione tra competenze statali e regionali*, in *Giur. it.*, 2017, 733 ff.

stance of a bureaucracy linked to a model of public administration that no longer meets exigencies of citizens for many years is overcome. This aspect seems to be relevant for the enquiry phase, for the continuous interconnection of the data and knowledge acquired by the administration.

On the other hand, with regard to relations between the administration and citizens, so-called 'front office' relations, the election of the digital domicile and the indication of a certified e-mail for receiving communications from the administration play a central role[94]. These aspects, on the contrary, seem to be decisive for a very incisive decision-making phase.

Objectives set out in the delegated law have been implemented in the Legislative Decree 13 December 2017, no. 217 that has introduced significant reforms to the *CAD*[95].

The article no. 1 of the Legislative Decree reformed the legal framework for Open Data, because it defined data in open format as data made available to the public and made accessible by technological devices. In this sense, the basis is laid for a rethinking of the administrative investigation phase.

Moreover, Open Data are considered as such if, by virtue of a license o rule of law, they are accessible by anyone, even for commercial purposes. In addition, Open Data must be accessible by means of *ICT*, including private networks, and must be free of charge.

Also from this reform it is perceptible the level of centrality of the theme of Open Data, that is not limited to the nearby issue of administrative transparency but it must be analyzed independently and allows to return to the main line of research, related to the path of change that goes through the exercise of the administrative function, and how public administration is evolving.

[94] See P. PROVENZANO, *Decreti Madia*, quoted, 8 ff.

[95] On the subject of reform, the title of the work drafted by B. CAROTTI, *Il correttivo al Codice dell'amministrazione digitale: una meta-riforma*, in *Giorn. dir. amm.*, 2018, 131 ff.

The theme of Big (Open) data, of Open Government, of transparency (or better, of transparencies) in Italian legal system requires a specific and autonomous treatment (*infra*, chapter 2).

In an attempt to think in terms of the future, it can be said that the public administration is in an evolutionary phase in which the high degree of automation and interconnection (defined authoritatively as P.A. 4.0[96]) must be brought back to the ambit of principles of law, with changes that impact on the organization, on the administrative procedure, on the system of imputability and, therefore, on the responsibility for administrative decisions, that will be analyzed in detail (*infra*, Chapter 3).

5. *Brief overview of results achieved and research perspective*

Rapid changes that the exercise of the administrative function is facing can be analyzed starting from the evolution of cognitive activity and adoption of administrative decisions, as a solution to a problem, by the administration.

In Italian law, as in other European legal systems, the administration is at a time of profound change, due to external factors, which affects the very way in which the public authority acts.

One of the issues that must be approached in the field of changing administration is the one related to digital policies for the whole public apparatus, a necessary precondition for the development of an ever-present administration, always ready to meet the needs of the user-citizen. First results have shown the need for a clear legislative policy on the digitization of administrative action, which is the prerequisite, the starting point from which the administration can not disregard.

The project, in relation to the possibility to evaluate *in vitro*

[96] D.U. GALETTA, J.G. CORAVALÁN, *Intelligenza Artificiale per una Pubblica Amministrazione 4.0? Potenzialità, rischi e sfide della rivoluzione tecnologica in atto*, in *www.federalismi.it*, 2019, 3.

evolutionary processes of administrative decisions, is developing in these directions.

The two central aspects that will be analysed in following chapters are the use of the data in terms of improving cognitive capacity of public administrations and possible compression of individual rights of the person (chapter 2) and the impact, in terms of legality, legitimacy and responsbility of administrative action, of *ICT* in the phase of adoption of administrative decisions (chapter 3). Lastly, there is a need to circumscribe the role that various actors (legislator, administration and Administrative Courts) should have in this inevitable process of transition, and assess the importance of classical principles and categories of law in this respect (chapter 4).

The analysis carried out takes into account the notions of general theory and of doctrinal and jurisprudential constructions in order to test the degree of stability of the change and the compatibility with the legal institutions and their interpretations in force.

CHAPTER II

DATA AND THE EVOLVING ADMINISTRATIVE COGNITIVE ACTIVITY. PERSPECTIVES AND CHALLENGES FOR ADMINISTRATION AND CITIZENS

TABLE OF CONTENTS: 1. The apparent centrality of transparency: terms of a misunderstanding. The (underestimated) leading role of data. – SECTION ONE. DATA AND PUBLIC ADMINISTRATION: IMPROVEMENT OF COGNITIVE HERITAGE AND REVISION OF THE ADMINISTRATIVE INQUIRY. – 2. Terminological clarifications concerning the notions of information, data, Big Data. *ICT* and PA cognitive heritage. – 2.1 Data and information: the advisability for an informed and knowledgeable administrative function. – 2.1.1 The required inter-administrative coordination: data and their management as a test bench. – 2.1.2 Reuse of data in the public sector: false myths and real risks. – 2.2 Big Data, administrative function and public cognitive heritage. – 2.2.1 Quantitative and qualitative improvement of public cognitive heritage: benefits of using Big Data. – 2.2.2 Hazards for public administrations related to use of Big Data. – 3. Closing remarks: data hegemony and the required evolution of administrative function. – SECTION TWO. THE RISKY (BUT PROBABLE) DISAPPEARANCE OF INDIVIDUAL RIGHTS FROM DATA: CRITICAL NOTES ON THE PROTECTION OF PRIVACY AND SECURITY. – 4. Open data, Open Government, e-Govrnement: beyond administrative transparency. – 5. The uncertain legislative scenario of administrative transparency in Italian law. – 6. Potential critical issues of Open Government from citizens perspective: privacy and security protection. – 6.1 Privacy protection, data sharing and evolving administration development: exploring a possible balance point. – 6.2 Thoughts from a hypothesis of failure of regulation: the Google Glass affair, risks to privacy and security. – 7. Protection of individual's personality and datafication of administrative action: underlying hyprocrisy.

1. *The apparent centrality of transparency: terms of a misunderstanding. The (underestimated) leading role of data*

Reforms of public administration in recent years have had as their common denominator transparency, to be pursued at all costs, a sort of panacea for all evils affecting administrative apparatus, from corruption to maladministration[1].

Beyond the legislative confusion on the subject, that will be discussed in the course of the chapter (it is enlightening and topical the remarks according to which it is not clear whether the organization or the administrative action should be transparent or whether the subject should be different[2]), this centrality hides a fundamental misunderstanding. Transparency can be a means, a value to be aspired to but the central element, the raw material of the administrative function in the near future are data[3].

The evolutionary path that the public administration is currently facing leads to the identification of the main factor in the data, which becomes essential in all aspects of the administrative function: in the data society, it is natural that the data administration develops. It is clear and also obvious that this predo-

[1] On this intolerable overlapping and confusion the bibliographic reference is limited to F. PINTO, *Il mito della corruzione. La realtà della malamministrazione*, Roma, 2018.

[2] The survey was carried out authoritatively by F. LEDDA, *Alla ricerca della lingua perduta del diritto. Divertimento un poco amaro*, in *Dir. pubbl.*, 1999, 1 ff., now in *Scritti giuridici*, Padova, 2002, 499, even if the Author himself criticized the excessive use of English instead of Italian and Latin legal terms; on the subject of the use of the English language and the study of public law, precisely in relation to this survey, please refer to M. CARTABIA, *A proposito di «The (hegemonic?) role of the English language» di Christian Tomuschat. La lingua inglese e lo studio del diritto pubblico*, in *Riv. trim. dir. pubbl.*, 2018, 907 ff.

[3] J.B. AUBY, *Il diritto amministrativo di fronte*, quoted, which indicates, among macro-effects of digitization, that data become the essential resource for administrative activity.

minance of this aspect affects both cognitive and decision-making activities.

So the premise according to which the the administration that is developing acis a way to make the administrative activity more transparent, as if it were a general and incontrovertible axiom, risks to be a misunderstanding, for two kinds of reasons.

First of all, because the dematerialization of administrative activity (not mere duplication of existing documents in paper form[4]) can allow the total obscuration of information assets with a single action (*rectius* click)[5]; data that the administration holds by virtue of its institutional tasks are continuously exposed to risks of hacking, of fraudulent deletion by persons who have violated the security portals of the administrations. From this point of view, the future administration, which was conceived as a model of transparency and accessibility to administrative data, risks leading to the opposite landing place.

Second reason – as mentioned in the preamble to this chapter – crucial for the following analysis, because the central aspect of the forthcoming new administrative model is that it relates to data, their re-use for administrative purposes, their value in terms of cognitive assets and the related protection that should be ensured in order to avoid infringements for citizens.

The use of *ICT* by public administrations creates a new space, not physical, that some scholars have traced back to the metaphor of the cloud[6]. All data and information held by administrations becomes intangible, and this requires the same public

[4] On this fundamental aspect, see G. DUNI, *Amministrazione digitale* (encyclopedic voice), in *Enc. dir.*, Annali, I, Milano, 14 ff., a key aspect of digital administration concerns data stored on digital support, as a natural evolution that accompanies and gradually replaces paper support

[5] Obviously, this is an extreme hypothesis (almost a provocation) that should be considered in order to avoid future risks, also because the objective of making the administration more open, more knowable for the citizen finds in the technologies a formidable bank, if channelled in the right way.

[6] V. BERLINGÒ, *Il fenomeno della datification*, quoted, 643.

authority to put in place a system of protection against different hazards to which these data are exposed[7].

The issue should therefore be read in the light of the central role of data, where the issue of transparency remains a key issue, but a value-mean; the administration will not be able (and in some ways is not able) to prescind from data, because the direction seems to be that of an administration of the data[8].

Data become the primary subject of the administrative function and this structure requires a rethink of classical institutes of administrative law.

The analysis must assess the compatibility of various aspects, in order to understand which are future structures of the administrative function, and how the data can overturn some legal arrangements and which issues, on the contrary, are current, starting from the lack of a precise legislative definition of data[9].

The administration of data also involves central aspects of

[7] On the subject of the importance of data see, *ex multis*, S. D'ANCONA, *Trattamento e scambio di dati tra pubbliche amministrazioni, utilizzo delle nuove tecnologie e tutela della riservatezza tra diritto nazionale e diritto europeo*, in *Riv. it. Dir. pubbl. com.*, 2018, 587 ff.; on the reassessment of the administration on the basis of the role of data, see A. ALÌ, *Lo Stato, Il territorio, l'accesso e la localizzazione dei dati ai tempi del 'cloud computing'*, in *Gnosis*, 2017, 142 ff.; S. PIGLIAPOCO, *La memoria digitale delle amministrazioni pubbliche: requisiti, metodi e sistemi per la produzione, archiviazione e conservazione dei documenti*, Rimini, 2005.

[8] C. ALBERTI, *E-society e riutilizzo dell'informazione nel settore pubblico. Disciplina comunitaria e riflessi nazionali*, in *Riv. it. Dir. pubbl. com.*, 2005, 1237 ff., e-society raises issues related to e-privacy and e-security; B. PONTI, *The concept of Public Data*, in J.B. AUBY (*ed*), *Droit comparé de la procédure amministrative*, Paris, 2016, 578 ff.

[9] On the subject it is necessary to point out the difference between data and information, because the data is a cognitive element, the information is the subjective result that the user gets from the aggregated data (see the analysis carried out by D.U. GALETTA, *La trasparenza, per un nuovo rapporto tra cittadino e pubblica amministrazione: un'analisi storico-evolutiva, in una prospettiva di diritto comparato ed europeo*, in *Riv. it. Dir. pubbl. com.*, 2016, 1019 ff.)

Open Data and Open Government that do not coincide with the theme of transparency and accessibility to documents, but these aspects represent a necessary starting point for analysis, especially from the perspective of the citizen[10].

The analysis based on the centrality of data for the administrative function should be divided into two distinct sections.

The first section concerns the perspective of the administration, for which increasing availability of data represents an opportunity that increases cognitive heritage, and, for these reasons, puts into crisis (or at least renders obsolete) some aspects of the administrative investigation procedure, such as the role of the responsible of the procedure (namely *RUP*) and that of the conference of services. Inspections, verifications and administrative investigative reviews change their format, because the knowledge and speed with which they hire allow new landings, with the same number of drawbacks.

The second section concerns the perspective of the citizen and of the possible (at the moment unresolved) criticalities in terms of the protection of privacy and security, values which, in the age of the fully interconnected administrations, with an uninterrupted exchange of data, are extremely sacrificed.

[10] On this issue, please refer to the complete analysis by D.U. GALETTA, *Open Government, Open Data e azione amministrativa*, in *Ist. fed.*, 2019, 663 ff., the notion of open government corresponds to a new model of administration, based on a greater openness and willingness of the government towards the citizens. This is made possible thanks to a process of technical and organizational innovation in the public sector, which is supported by new information and communication technologies and is functional to the objectives of the so-called 'Opengov'. In this specific context, the digitization of the public sector has led to a renewed conception of the administrative function, particularly in the perspective of cooperation between public administrations, as well as in the perspective of the administrative-administrative relationship.

SECTION ONE: DATA AND PUBLIC ADMINISTRATION: IMPROVEMENT OF COGNITIVE HERITAGE AND REVISION OF THE ADMINISTRATIV INQUIRY

2. *Terminological clarifications concerning the notions of information, data, Big Data. ICT and PA cognitive heritage*

The cognitive activity of the administration has always been considered merely instrumental to the exercise of power and has not had for years its own autonomy, even in terms of definition[11]. Cognitive activity precedes any work of the administration and can be defined as any action that administration takes in order to acquire knowledge.

The impact and growing importance that data have on the preliminary phase and on the formative phase of the knowledge of the administration requires to reflect on the classic canon of knowledge acquisition by the public sector.

The issue of information and data that the public administration places at the base of the exercise of its functions concerns the internal side of the cognitive power of the same public authority[12].

[11] As regards public administration cognitive activities, it is necessary to refer to studies carried out by F. LEVI, *L'attività conoscitiva della pubblica amministrazione*, Torino, 1967, 205 ff., the cognitive activity of the administration has always been considered instrumental to power of evaluation, to the concept of formation of the public will and to activity for application of administrative power; S. PUGLIATTI, *Conoscenza e diritto*, Milano, 1961; D. BORTOLOTTI, *Attività preparatoria e funzione amministrativa*, Milano, 1984, 44 ff.; B. TONOLETTI, *L'accertamento amministrativo*, Padova, 2001.

[12] M.P. GUERRA, *Il coordinamento dell'informazione nel sistema politico-amministrativo*, in M. CAMMELLI, M.P. GUERRA (*eds*), *Informazione e funzione amministrativa*, Rimini, 1997, 225 ff; G. ABBAMONTE, *In margine al disegno di legge*, in F. TRIMARCHI (*ed*), *Procedimento amministrativo fra riforme legislative e trasformazioni dell'amministrazione. Atti del convegno Messina-*

In this perspective, the use of *ICT* raises new issues related to the processing, storage and circulation of information and data, by speeding up the procedures for retrieving and processing data and the possibility of cross-referencing the different data held by different public administrations. The technicalization of administrative activity has the direct effect of extending the scope of the duty of knowledge

Before assessing the impact and the new issues raised by the use of *ICT* in relation to new ways of acquiring and using these cognitive resources, it seems appropriate to set the notions of data, information and the recent notions of Big Data.

Taormina, 25-26 febbraio 1988, Milano, 1990, 158 ff.; F. MERLONI, *Sull'emergere della funzione di informazione nelle pubbliche amministrazioni*, in F. MERLONI (*ed*), *L'informazione delle pubbliche amministrazioni*, Rimini, 2002, 74 ff.; F. LEVI, *L'attività conoscitiva*, quoted, 205 ff.; L. CAPONI, *Indirizzo di governo, attività consultiva e di ricerca nella programmazione economica*, in *Riv. trim. dir. pubbl.*, 1967, 1080 ss., noting the central role of data acquisition in the planning phase of administrative activity; M.P. GUERRA, *Funzione conoscitiva e pubblici poteri*, Milano, 1996; E. CARLONI, *Le verità amministrative. L'attività conoscitiva tra procedimento e processo*, Milano, 2011; F. MERLONI, *Le attività conoscitive e tecniche delle amministrazioni pubbliche. Profili organizzativi*, in *Dir. pubbl.*, 2013, 481 ff., the cognitive and technical activities reveal an instrumental relationship with the administrative function. In this sense, it is possible to speak of instrumentality (close instrumentality) as the technical cognitive foundation of a single decision or as a general contribution to the knowledge of reality (wide instrumentality); G. GARDINI, *Le regole dell'informazione. L'era della post-verità*, Torino, 2017; B.G. MATTARELLA, *Informazione e comunicazione amministrativa*, in *Riv. trim. dir. pubbl.*, 2005, 1 ff.; S. BALLERO, *Funzione di comunicazione e responsabilità della pubblica amministrazione*, Napoli, 2010, 19 ff.; B. TONOLETTI, *Convergenza tecnologica e pluralismo informativo nelle comunicazioni elettroniche*, in M. CUNIBERTI, E. LAMARQUE, B. TONOLETTI, G.E. VIGEVANI, M.P. VIGEVANI SCHLEIN (*eds*), *Percorsi di diritto delle informazione*, II, Torino, 2006, 310 ff.; on the subject, the role of forerunner in terms of dissemination of information and knowledge, as happened for the crossing of national borders in terms of activities, is the responsibility of Independent Administrative Authorities, as noted by R. PEREZ, *Informazione e autorità indipedenti*, in *Foro amm.*, 1997, 641 ff.

2.1 *Data and information: the advisability for an informed and knowledgeable administrative function*

In view of the importance and impact of information resources in the exercise of administrative functions, it is appropriate to lay down certain guidelines in relation to the basic concepts of data and information.

For a first interpretation, data and information were used in a fungible way and included factual data, legal qualifications, basic, raw and aggregated data.

The need for the administration to acquire data and information was evaluated on the basis of the instrumentality with respect to the administrative function, understood either as a single procedure or as a generic activity aimed at implementing cognitive apparatus available to the public subject[13].

This second aspect, i.e. the acquisition of elements to guarantee the administration a permanent knowledge base, has long been neglected by the administration and it seems that the advent of *ICT* has not changed this drift, since the use seems to be increasingly directed to the care of the individual interest. However, it should be noted that this is fully consistent with the development of the notion of 'results administration'[14], in which

[13] The subject of creating a cognitive basis for public administration intercepts various activities, including those dating back to the past, such as the keeping of registers and archives, the production of official statistics by administrations themselves or the first electronic centres for the processing of databases (please refer to F. CURCUTUO, V. TOMASELLI (*eds*), *I servizi informativi della pubblica amministrazione: anagrafici, statistici ed elettorali*, Rimini, 2008).

[14] The result is a general principle of administrative action, and it is difficult to harmonize with the acquisition of information for a general improvement of knowledge by public administration, on the subject of administration of result, in the non-exhaustive sense, see the authoritative contributions by A. ROMANO TASSONE, *Sulla formula 'amministrazione per risultati',* in *Scritti in onore di E. Casetta,* Napoli, 2001, II, 815 ff; A. ROMANO TASSONE, *Amministrazione di risultato e provvedimento amministrativo*, in M. IMMORDINO, A. POLICE (*eds*), *Principio di legalità e amministrazione di risultati. Atti del con-*

the interest of the public servant is the acquisition of data for the definition of the procedure, not for the prospective expansion of the knowledge of the administration.

However, in a less limited perspective, the need for quality and continuity of administrative action, which is increasingly complex in technical terms, makes the knowledge activity carried out from time to time insufficient and makes it almost necessary to use a constant base of organized information[15]; *ICT*, in this direction, can be a tool to be exploited, after having overcome the (probable) reluctance of public officials.

In the perspective proposed here, it is appropriate to hold

vegno, Palermo 27-28 febbraio 2003, Torino, 2004, 1 ff.; M. CAMMELLI, *Amministrazione di risultato*, in *Annuario AIPDA*, Milano, 2002, 107 ff.; L. GIANI, *L'operazione amministrativa nella prospettiva del risultato: nel procedimento e nel processo*, in *Nuove aut.*, 2012, 197 ff.; L. IANNOTTA, *Merito, discrezionalità e risultato nelle decisioni amministrative (l'arte di amministrare)*, in *Dir. proc. amm.*, 2005, 1 ff.; M.C. CAVALLARO, *Principio di legalità e giusto procedimento: per una diversa lettura del rapporto tra legge e amministrazione*, in S. PERONGINI (*ed*), *Al di là del nesso tra autorità e libertà: tra legge e amministrazione*, Torino, 2017.

[15] For instance, see A. BONOMO, *Informazione e pubbliche amministrazioni*, Bari, 2010, 410 ff.; in general terms on the issue of the need for a cognitive heritage for the administration due to the complexity of the related actions, see R. SPAGNUOLO VIGORITA, *Amministrare la complessità, complessità di amministrare. Una introduzione*, in S. TUCCILLO (*ed*), *Semplificare e liberalizzare. Amministrazione e cittadini dopo la legge n. 124 del 2015*, Napoli, 2016, 61 ff.; on the need for coordination to administer the complexity of the factual reality, see G. MARONGIU, *Il coordinamento come principio politico di organizzazione della complessità sociale*, in G. AMATO, G. MARONGIU (*ed*), *L'amministrazione della società complessa. In ricordo di Vittorio Bachelet*, Bolgona, 1992, 145 ff.; M.P. GUERRA, *Circolazione dell'informazione e sistema informativo pubblico: profili dell'accesso interamministrativo telematico. Tra testo unico sulla documentazione amministrativa e codice dell'amministrazione digitale*, in *Dir. pubbl.,* 2005, 525 ff., the sharing of information asset leads to a reduction of the time and cost of administrative action and also to a more complete and reliable administrative decision; S. CIVITARESE MATTEUCCI, M. LYCETT, *Datafication: making sense of (Big) Data in a complex world*, in 22 *European Journal of Information System* (2013), 381 ff.

separate notions of data and information[16], also to assess the relative role for the exercise of the administrative function and how *ICT* can have consequences in relation to their reuse and accessibility.

Data is the unitary element, the fragment of the document, with an objective value because it is a certain element. Data becomes the means through which the administration acquires the information necessary for the performance of the function, so that it becomes a fundamental component of administrative action, as a tool for knowledge and interpretation of reality and improvement and updating of cognitive heritage of the administration itself.

Information is the processing of different data that is obtained through their aggregation in relation to the consultation of a database and has a connotation in some ways subjective[17].

This distinction, of a certain relevance, although fading away in relation to the discipline of dissemination of data and information, is useful for analysing two different aspects, useful to define the different role and impact of data and information for administrative activities and to evaluate the impact that *ICT* have had on these aspects. However, from an initial approach,

[16] On the subject of the distinction between data and information, see F. MANGANARO, *Trasparenza e digitalizzazione*, in *Diritto e processo amministrativo*, 2019, 35; G. CARULLO, *Open Data e partecipazione democratica*, in *Ist. fed.*, 2019, 689; G. CARULLO, *Gestione fruizione e diffusione dei dati dell'amministrazione digitale e funzione amministrativa*, Torino, 2017, 41 ff.; S. D'ANCONA, *Trattamento e scambio di dati tra pubbliche amministrazioni*, quoted, 593; A. PREDIERI, *Premessa ad uno studio sullo Stato come produttore di informazioni*, in *Studi in onore di Giuseppe Chiarelli*, II, Milano, 1974, 1626 ff.

[17] D.U. GALETTA, *Accesso civico e trasparenza della Pubblica Amministrazione alla luce delle (previste) modifiche alle disposizioni del Decreto Legislativo n. 33/2013*, in *www.federalismi.it*, 2016; in a consistent manner, A. MASUCCI, *Il documento informatico. Profili ricostruttivi*, in *Riv. dir. civ.*, 2004, according to which the data does not transmit any meaning, to do so it must be reworked.

quantitative improvements in cognitive sphere of administration are evident.

2.1.1 The required inter-administrative coordination: data and their management as a test bench

In consideration of the crucial importance that the cognitive activity of data acquisition has for the public administration, it is equally useful to note that the administration often acts on the basis of data that it has not acquired and that it does not possess but which are taken from databases[18], since they relate to a direct cognitive activity carried out by another public entity.

The duty to collect, manage and exchange data between different administrations is directly aimed at improving the information element and, as a consequence, is an obligation falling under the principle of good administration[19].

The subject is well known and already the suppressed *Autorità per l'informatica nella pubblica amministrazione* (Authority for information technology in public administration) (originally established by Legislative Decree 12 February 1993, no. 39) had, among its institutional tasks, the coordination of public information systems[20].

[18] On the central role of public databases, see G. DUNI, *Anniversari dell'informatica amministrativa. Origini, evoluzione, prospettive*, in *Dir. proc. amm.*, 2015, 615 ff.; on this subject, see the analysis by D.U. GALETTA, *Public administration in the era of database and information exchange networks: empowering administrative power or just better serving the citizens?*, in 25 *European Public Law* (2019), 171 ff.

[19] In this sense, D.U. GALETTA, H.C.H. HOFMANN, J.P. SCHNEIDER, *Information exchange in the European Administrative Union: an introduction*, in 1 *European Public Law* (2014), 65 ff.; M. ELIANTONIO, *Information exchange in European Administrative Law a threat to effective judicial protection?*, in 23 *Maastricht Journal of European and Comparative Law* (2016), 531 ff.

[20] See, on this point, the analysis conducted by M. MINERVA, *Verso l'integrazione dei sistemi informativi pubblici: la rete unitaria della pubblica*

All information resources held by public administrations, which constitute a real and proper asset, must be connected, through the interconnection of databases belonging to all public subjects, in order to allow the use of such data for a more knowledgeable, and thus presumably faster and more efficient, exercise of administrative action[21].

Article no. 50 of CAD provided that government data are formed, collected, stored and made available through the use of *ICT* for use and re-use by other public administrations; the circulation of data between public administrations with different competences is the bridge connecting an increasingly cross-sectoral administration[22].

This appears to be a nodal point, which the the change in administration is bringing to the attention of interpreters and legislators.

After having put the issue of administration by territory in potential crisis, the issue of data fully available to all public bodies risks inducing a rethinking of administration by competence. The issue of the full availability of data by all public administrations makes the atomistic dimension (linked to both competence and territory) obsolete and makes the

amministrazione, in *Dir. inf.*, 1998, 623 ff., the centrality of integration of *IT* resources had to be functional to the improvement of services, strengthening of cognitive support for public decisions and containment of costs for administrative action.

[21] In this regard, V. CERULLI IRELLI, *La tecnificazione*, in S. CIVITARESE MATTEUCCI, L. TORCHIA (*eds*), *La tecnificazione* (Vol. IV), in L. FERRARA, D. SORACE (*eds*), *A 150 anni dall'unificazione amministrativa italiana. Studi*, Firenze, 2016, 281 ff., all the reforms, including Law 124 of 2015, were intended to implement and guarantee principle of efficiency, because administrative decisions must reach the recipient more quickly and must therefore be ready to produce immediate effects. But, it is also a question regarding principle of cost-effectiveness: because all this, once it has entered into force, certainly entails lower costs, also with regard to personnel, shorter times for public action.

[22] J.B. AUBY, V. DE GREGORIO*, Le smart cities in Francia*, in *Ist. fed.*, 2015, 980 ff.

administrative function become a dimension of inter-administrative coordination[23].

This consideration, at the moment, must be left in doubt, but the possibility for all public subjects to have access to a single patrimony of information avoids the isolation of administrations and raises questions of critical rethinking of administrative organization (both in terms of territory – the data are made immaterial, so it is independent of the place of detention of the same – both in terms of skills).

Moreover, the issue transcends the national question, because, as European Commission pointed out in a 2018 study report[24], information exchange between public administrations of Member States must be a priority objective.

[23] On the subject, see in general terms, *ex multis* F. CORTESE, *Il coordinamento amministrativo. Dinamiche e interpretazioni*, Milano, 2012, 13 ff.; F. MERLONI, *Il coordinamento e governo dei dati nel pluralismo amministrativo*, in B. PONTI (*ed*), *Il regime dei dati pubblici*, Rimini, 2008; on the subject, see the interesting analysis carried out by A. STERPA, *Come tenere insieme la 'disintermaediazione' istituzionale e la rappresentanza della Nazione*, in *www.federalismi.it*, 2018, according to which *ICT*, Big Data are leading to the rejection of the institutional role of administrations, because there is a tendency of the individual to propose himself on the social and institutional stage without the mediation (social or political) of third parties and indeed to reject it; a real 'directism' (i.e. direct action) that is expressed through expansion of human expressive capabilities made possible by new technologies of both communication and action.

[24] EUROPEAN COMMISSION, *A comparative overview of public administration characteristics and performance in EU28*, avaiable on *www.ec.europa.eu* (2018), 2; on the subject, see the analysis carried out by D.U. GALETTA, *Le model rules di ReNeual e gli aspetti più innovativi della collaborazione tra amministrazioni nell'Unione Europea: procedimento amministrativo, scambio di dati e gestione delle banche dati*, in *Riv. it. Dir. pubbl. com.*, 2018, 347 ff.; C. NAPOLITANO, *EU Administrative procedures. Presenting and discussing the ReNEUAL draft model rules*, in *Riv. it. Dir. pubbl. com.*, 2014, 879; R. FERRARA, *Premesse ad uno studio sulle banche dati della pubblica amministrazione: fra regole della concorrenza e tutela della persona*, in *AIDA*, 1997, 271 ff.; M. BLAKEMORE, M. CRAGLIA, *Access to public-sector information in Europe: policy, rights and obligations*, in 22 *The Information Society* (2007), 13 ff.

The problematic issue is related to the reliability of these data, which need to be updated[25], in order to prevent public administrations from using outdated data that may divert proper administrative action.

The Legislative Decree 14 March 2013, no. 33 (the so-called transparency decree) provided that the administration must guarantee the quality, integrity, constant updating and completeness of the information published in the section of the institutional website 'Transparent Administration'; however, this rule does not seem sufficient, because it is aimed at protecting the position of legitimate reliance of the private party, regarding the truthfulness of the data published by administrations, and not to ensure immediate updating for reuse by other public bodies.

An outdated, incorrect data used by a public administration through the use of databases can lead to an incorrect public decision in several respects. The great patrimony of territorial information in Italy is marked by a significant fragmentation and by evident problems of quality and coherence that have a significant impact on administrative procedures that use such data.

For these reasons, it is appropriate that data present on the interconnected databases, available to public bodies for relative institutional tasks, respect four categories proposed by the doctrine, namely accuracy, relevance, comprehensibility and accessibility[26].

[25] On the subject of the risks associated with the use of outdated data, in relation to the maritime state property information system, please refer to the analysis by P.M.R. SALVA, *Il Sistema Informativo del Demanio Marittimo (SID): uno strumento di e-government tra problematiche applicative e partecipative*, in *Ist. fed.*, 2019, 767, which notes the inadequate updating of the data, the dubious legal value of the map extracts. Problematic issues are related to the completeness and correctness of the data and their quality, which raise doubts about the use and re-use by other public administrations, about the accountability of such data.

[26] E. CARLONI, *La qualità delle informazioni pubbliche: l'esperienza italiana nella prospettiva comparata*, in *Riv. trim. dir. pubbl.*, 2009, 155 ff.; in another respect, but always linked to the reliability of public (but statistical)

Continuous updating should be based on the assumption that the format of these data is uniform for all administrations and that direct maintenance is carried out to ensure that these data are kept and updated (with costs to be covered) by administrations.

Real risk is about the flattening of administrations on acquired data, which would imply a further contraction of the preliminary phase. The decision taken on the basis of data acquired (obviously by other public administrations) and not verified in terms of reliability and updating could be annulled due to excess of power under article no. 21*octies* of the law on administrative proceedings.

Administrations can obviously benefit from data, from the acquisition of information from databases, but the phase of verification of these data, which does not correspond to a real investigation phase, must not be lacking, at the risk of an administrative activity carried out in such a way as to damage the trust of the private individual, who could suffer an injury due to a decision taken on the basis of outdated data or no longer reliable in terms of reliability for the community of the decision adopted[27].

information, see L. TORCHIA, *Autonomia dei soggetti e funzionalità del sistema: condizioni di qualità e dell'informazione statistica*, in *Riv. it. Dir. pubbl. com.*, 1999, 643 ff.; F. GIGLIONI, *Le soluzioni istituzionali alla qualità dell'informazione statistica*, in *Dir. pubbl.*, 2005, 1024 ff.; F. MERLONI, *Attività conoscitive delle amministrazioni pubbliche e statistica ufficiale*, in *Riv. trim. dir. pubbl.*, 1994, 209 ff.; E. CARLONI, *La qualità dei dati pubblici*, in B. PONTI (*ed*), *Il regime dei dati pubblici. Esperienze europee e ordinamento nazionale*, Rimini, 2008, 253 ff., data quality summarises all characteristics of an entity to meet implicit and explicit needs of the administration.

[27] F. MERLONI, E. CARLONI (*eds)*, *La trasparenza amministrativa*, Milano, 2008, 419 ff., the information system must be coordinated and updated, as the lack of communication between information systems represents a real risk of reliability of public action.

2.1.2 Reuse of data in the public sector: false myths and real risks[28]

The issue of re-use of data and information in the public sector seems to be still unresolved in several respects, despite being covered by directives and internal transposition measures, which should be explained in thepreliminary remarks.

As early as 2003, the European Community adopted Directive 2003/98/EC on re-use of information in public sector to promote information society; in view of the value of the data and information for the exercise of administrative function, this cognitive asset was defined as *PSI* (Public Sector Information)[29].

The Directive was designed to allow public sector bodies to make general use of all documents available on public databases (i.e. use other than for the original purpose for which the data or information was acquired)[30].

Criteria set out in European Directive 98/2003/EC concerned the need to provide homogeneous coordinates within which individual Member States can move to create a general framework to ensure fair, appropriate and non-discriminatory conditions for re-use. In this context, the *IT* coordination of the different resources held by the public administrations requires a

[28] The title is derived from the research by F. PINTO, *L'utilizzo delle piattaforme informatiche da parte della pubblica amministrazione: tra falsi miti e veri rischi*, in *Amministrativamente*, 2018.

[29] Please refer to K. JANSSEN, *The influence of the PSI directive on open government data: an overview of recent developmentes*, in 28 *Government Information Quarterly* (2011), 446 ff, "it is argued that the success of the open government data movement in some Member States can be related to the confusion or ignorance about the relationship between traditional freedom of information legislation and the re-use of public sector data. If future information policies decide to follow this trend, they should always ensure that existing rights on freedom of information are not harmed".

[30] C. ALBERTI, *E-society*, quoted, 1245, the Directive identified guidelines, criteria and modalities for the fair, appropriate and non-discriminatory re-use of public sector information.

setup and interconnection between them, without changing the ownership of the entity that acquired the original data or information[31].

In 2006 – one year later than the limit set by the Directive – Italian legislator transposed the text into Legislative Decree 24 January 2006, no. 36, then subjected to continuous changes that have transformed the original version (including it is necessary to report Legislative Decree 18 May 2015, no. 102).

Article no. 7 of the Legislative Decree establishes, as a standard rule for re-use of data, the criterion that data should be made available free of charge. To this rule should be added the combined reading of article no. 69 of the CAD, which provides for that public administrations which own *IT* solutions and programmes developed are obliged to make available the relevant complete source code of the documentation and released into public repertoire under open license in free use to others public administrations.

The issue of gratuitousness is subject to a fundamental misunderstanding, which should be taken into account; it is un-

[31] In this sense, see B. PONTI, *Il patrimonio informativo come risorsa. I limiti del regime italiano di riutilizzo dei dati delle pubbliche amministrazioni*, in *Dir. pubbl.,* 2007, 996, public policies, with targeted investments for the data diffusion, favour the prevalence to promote free data transmission issue, with no constraints between administrations; E. MENICHETTI, *Tutela e valorizzazione del patrimonio informativo pubblico*, in F. MERLONI (*ed*), *Introduzione all'e-government. Pubbliche amministrazioni e società dell'informazione*, Torino, 2005, 153 ff.; V. AMBRIOLA, F. MARTINI, *Gestione e fruibilità del patrimonio informativo pubblico*, in *Dir. inf.*, 2002, 875, public information differs in nature because it is collected, acquired, preserved or produced by administrations in the context of activities that are not homogeneous and are used for the most different needs, but it constitutes a real value (not an economic value, as is the case in the French legal system) but a cognitive one; P.J. BIRKINSHAW, A. HICKS, *The law and public information on UK. Quality, access and re-use*, in *Dir. pubbl.* 2007, 959 ff.; F. PAVONI, *La disciplina del riutilizzo dei dati pubblici dal punto di vista del diritto amministrativo*, in *Dir. inf.*, 2012, 87 ff.

thinkable, those ingenuous[32], to believe that use of computer platforms for data management (and allow reuse in public sector) may be available free of charge or free of charge for administrations that manage databases. Use and management of platforms have direct and indirect costs – for example, in terms of platform maintenance, data updating – for the administration that acquires the necessary resources; the issue of (apparent) gratuitousness risks being a mistake (obviously known to administrations) that hides certain risks.

The free nature of the re-use of data in public sector hides costs and benefits that are difficult to trace, precisely because they are concealed by the free provision, which risks hiding a basic hypocrisy (certainly unconscious).

The issue of cost-free re-use should therefore be rethought in legislation, for two different reasons.

First, it would be appropriate to make public and known costs incurred by administrations, but masked under other headings and therefore made untraceable.

Secondly, consciously regulating costs incurred by administrations for the management of databases (and therefore data) would make it possible to direct an item of expenditure to the updating and proper maintenance of data, which would allow

[32] In these terms, F. PINTO, *L'utilizzo delle piattaforme*, quoted, 6; in doubtful terms on the subject of applying profits on data re-use, B. PONTI, *Titolarità e riutilizzo dei dati pubblici*, in B. PONTI (*ed*), *Il regime dei dati pubblici. Esperienze europee e ordinamento nazionale*, Rimini, 2007, 226, a central aspect of policies on the re-use of public information is the costs faced by those concerned, i.e. the charges that administrations may levy for the provision of data they hold. Italian discipline chooses to differentiate costs in relation to the final use. From this point of view, the activity of collecting information from the administration is placed within a process of value creation, and consequently remunerated, but with unclear mechanisms. In other words, the owner of data is paid, without forgetting that, by definition, data are collected, processed, stored for different reasons (the performance of a function public) with respect to their re-use.

its re-use – in terms of reliability generated in other administrations – to be essentially riskless.

2.2 Big Data, administrative function and public cognitive heritage

The issue of cognitive heritage and the need to make it available to other administrations has found in the use of *ICT* a potential improvement for the way in which data is managed and transmitted (to which, of course, a series of risks are linked that should be taken into account).

The possibility of transferring the large amount of data that the administration holds, making them usable, intertwining them to elebrate new information requires to consider issue of Big Data[33] (a phenomenon born and developed in private sector, for different purposes[34]) also in relation to public admini-

[33] On the subject, please see F. COSTANTINO*, Rischi e opportunità del ricorso delle amministrazioni alle predizioni dei big data*, in *Dir. pubbl.*, 2019, 43 ff.; G. CARULLO, *Big Data e pubblica amministrazione nell'era delle banche dati interconnesse*, in *Conc. merc.*, 2016, 81 ff.; F. COSTANTINO, *Lampi. Nuove frontiere delle decisioni amministrative tra open e big data*, in *Dir. amm.*, 2017, 799 ff.; M. FALCONE, *Big Data e pubbliche amministrazioni: nuove prospettive per la funzione conoscitiva publica*, in *Riv. trim. dir. pubbl.*, 2017, 601 ff.; V. ZENO ZENCOVICH, G. CODIGLIONE, *The ten legal perspective on the 'Big Data Revolution',* in *Conc. Merc.* (special issue), 2016, 30 ff.; A. OTTOLIA, *Big Data e innovazione computazionale*, Torino, 2017; V. MEYER-SCHÖNBERGER, K. CUKIER, *Big data: a revolution that will transform how we live, work and think*, New York, 2013.

[34] On the genesis of the phenomenon, see the study by D. LANEY, *3d Data management: controlling data volume, velocity and variety*, in 70 *Research Note* (2001), 6 ff.; A. GIANNICARI, *La storia dei Big Data, tra riflessioni teoriche e primi casi applicativi*, in *Merc. Conc. reg.*, 2017, 308; C. COMELIA, *Origine dei 'Big Data'*, in *Gnosis*, 2017, 130 ff.; in a different perspective, see the interpretation proveided by P. TAMBE, *Big Data investment, skills and firm value*, in 60 *Management Science* (2014), 1452 ff.; R. CONNELLY, C. PLAYFORD, V. GAYLE, *The role of administrative data in the Big Data revolution*, in 59 *Social Science Research* (2016), 7 ff., administrative datasets have the potential to contribute to the development of high-quality and impactful social science research, and should not be overlooked in the emerging field of

strations and their functions[35].

First difficulty encountered is the lack of a legally accepted definition of Big Data, given that Italian legislation does not define the concept, but some reference to the subject is found in some Ministerial Decree[36].

It is now generally accepted that Big Data are characterized by so-called 4 '*V*', i.e. volume, velocity, value and variety, four essential features of this instrument, which is becoming increasingly important in public sector, for the potential inherent in a substantially boundless heritage, available to public administrations.

Big Data is, then, a huge set of data that makes traditional data storage and processing technologies obsolete, which can no longer store and analyze them in the traditional way. Fur-

big data; on the relationship between Big Data, performance and efficiency from the point of view of the administrative organization, see N. ROGGE, T. AGASISTI, K. DE WITTE, *Big Data and the measurement of public organizations performance and efficiency: the state of art*, in 32 *Public Policy and Administration* (2017), 4 ff., "the application of empirical models for assessing the efficiency of public entities can also open the door to the study of its determinants, and consequently have interesting implications for policy, administration and management of the public services. In this context, for instance, it can be tested whether particular managerial tools, different roles for the regulations, or stimulating policies and interventions. The new opportunities offered by big data can help the efficiency analysis of public entities make a further step. More specifically, nowadays, administrative datasets are big in the sense that the individual organizations, in many sectors, periodically produce very detailed questionnaires and databases that include structural or hard information and soft data about managerial practices, quality of outputs and inputs. In addition, a huge amount of information is released by individual public organizations, and can be collected as open data".

[35] In order to perceive the relevance of big data in contemporary Italian administrative law, see the work of the conference organized by the Association of Professors of Administrative Law (*AIPDA*), entitled 'Public Administration with Big Data', held at the University of Turin on 20-21 May 2019

[36] For example, the Ministerial Decree 15 October 2014, no. 77297 (Attachment no. 1) includes among the qualifying *ICT* for technological development, those responsible for the management and processing of Big Data.

thermore, Big Data are heterogeneous in that they can be structured, semi-structured or unstructured (i.e. data that have a format that can totally or partially prevent traditional databases from storing and processing them in an ordinary way), and can come from very different sources, which do not constitute an exhaustive list, and are not circumscribed by law.

In this sense, the theme of Big Data – despite the impact and importance that the theme can play in view of rethinking the traditional administrative action – seems to be elusive and not easily adjustable.

With respect to the potential and critical issues related to ordinary re-use of public data, analyzed above, the volume and speed of transfer of Big Data raises questions (in terms of opportunities and risks for public administrations) in part overlapping with those already analyzed and in part completely unexplored.

For this reason, it is decided to divide the analysis between the potential that Big Data offer for overall improvement of administrative action and risks that this issue entails[37].

On the subject, it was noted that it is possible to discuss on the one hand techno-optimism and on the other hand policy-pessimism, in relation to the use of Big data in the public sector[38].

2.2.1 *Quantitative and qualitative improvement of public cognitive heritage: benefits of using Big Data*

Big data are used to know the reality, monitor the territory and analyze the impact of determined decisions on local com-

[37] For a summary reading, see R. KITCHIN, *The opportunities, challenges and risks of Big Data for official statistics*, in 31 *Statistics Journal of IAOS* (2015), 471 ff.

[38] The reference is to the title of the article drafted by S. VYDRA, B. KLIEVINK, *Techno-optimism and policy-pessimism in the public sector big data debate*, in 10 *Government Information Quartely* (2016), 23 ff.

munities that are administered as quickly and completely as possible, in support of public decision-making; in other words, they act as a further arrow in the quiver of the public administration to deal with complexities that the same always meets in the exercise of its functions, increasing quickly and with a large amount of data assets of public entities[39].

[39] In relation to the use of Big Data in the Italian legislative and organizational landscape, please refer to P. SAVONA, *Administrative decision-making after the Big Data revolution*, in *www.federalismi.it*, 2018, 14 ff., "In Italy too, administrative authorities have begun to emply data mining techniques to extract new, useful information from public datasets. The *Autorità Nazionale Anticorruzione* (National Anti-corruption Authority), e.g. signed in 2015 an agreement with the *Corte dei Conti* (Court of Auditors), by which the parties undertake to share their databases and to anayse them to build statistical indicators of risk of illegal practises in public procurement; the *Agenzia Italiana del Farmaco* (Italian Medicines Agency) uses data mining methods to detect signals of previously unrecognized adverse drug reaction on national and regional pharmacovigilance databases containing information gathered through spontaneous reporting systems. Italian authorities have also begun to employ the tools of big data analysis in decision-making. The *Istituto Nazionale Previdenza Sociale INPS* (National Social Welfare Institute), for example, routinely uses predictive analyticsto detect social security frauds. In early applications, *INPS* computer systems have mined the huge quantities of data contained in the databases of the Institute and of other authorities to build statistical indicators of risk of non-compliance with the obligation to pay social security, welfare and insurance contributions. Using such indicators, constantly updatad by the system, algorithms have selected companies at higher risk of non-compliance, which have had to undergo administarive inspections"; M. FALCONE, *Big data*, quoted, 612, the phenomenon of big data, beyond its difficult definition, is also producing a significant change in the approach to data management, to the culture of data, attributable to the gradual transition from a logic of data governance based on small data to a logic of data governance based on big data: from a logic whereby it was necessary to govern and enhance the limited data collected – representative of reality, since it was possible to collect only a limited amount of data with respect to the reality of things – it is moved on to a logic whereby it is necessary to collect and govern all possible data, data that presumably come very close to the totality of the data that can be obtained, basically because it is possible to do so in an increasingly constant manner. The passage from the logic of small data to the

Most advanced frontier in terms of improving administrative action through the use of Big Data concerns the ability to predict (for the same public entity) public decision, with a degree of accuracy that is not absolute, but which is based on the so-called intercurrent relationships of cross data.

If, as mentioned above, informations are cognitive basis for aware decisions of public administrations, not the Big Data itself, but the information element that comes out by crossing these data seems to be an absolute value in terms of predictability[40] of administrative action.

Reuse and processing of Big Data through *ICT* provides the administration with information that makes the action more aware.

Moreover, such a forecasting perspective would allow the administration to direct the action in order to use the limited resources (human and financial) available to it where the greatest favourable impact will occur (always in a predictive, never certain way)[41].

In summary, opportunities that Big Data bring to administrative action are quantitative rather than qualitative.

Focusing on data and data processing is not new for admini-

logic of big data, can be observed in all the moments that characterize the management of data: from the collection, to the methods of their elaboration, passing through their conservation.

[40] On the subject of overestimating the value of the predictability of administrative action and legal certainty, in general term, see the analysis by L. TORCHIA, *Lontano dal giuspositivismo: incertezza, insicurezza, fiducia*, in *Giorn. dir. amm.*, 2017, 171 ff.; on the subject of predictability and certainty of administrative action, reference is made in a widespread sense to A. POLICE, *Prevedibilità delle scelte e certezza dell'azione amministrativa*, in *Dir. amm.*, 1996, 697 ff.; on the subject of rational expectations, game theory applied to administrative decisions, see F. MERUSI, *Ragionevolezza e discrezionalità amministrativa*, Napoli, 2011, 17 ff.

[41] F. COSTANTINO, *Rischi e opportunità*, quoted, 48; A. MANZOOR, *Emerging role of Big Data in public sector*, in A. AGGARWAL (*ed*), *Managing Big Data integratum in the public sector*, London, 2015, 268 ff.; D.L. RUBINFELD, M.S. GAL, *Access barriers to Big Data*, in 18 *Ariz. L. Rev* (2017), 339 ff.

strations, but having such a large amount of data at your disposal, so quickly raises new challenges for the processing and management of data and information obtained but (as will be seen in detail *infra*, chapter 3) good performance of activity always depends on the administration, Big Data can play a supporting role but it is the administration that has to adopt a 'good', in meaning of conscious, correct and quick, public decision[42].

2.2.2 Hazards for public administrations related to the use of Big Data

Use of Big Data as a cognitive basis used by administrations for the adoption of administrative decision-makers also involves many risks.

First of all, risks associated with the failure to update the data, already examined during the course of the analysis, are amplified, since this is a large quantity of outdated data, the crossing of which (intended as an operation to obtain the necessary information) can induce administration to make an incorrect choice.

This landing place, with very wide diffusion of Big Data, can lead to the repetition of the error for all decisions that have adopted (also) that single data to generate the information to be placed at the base of public decisions.

An additional effect, but closely linked to that of incorrect decisions taken on the basis of outdated data, is that of the delegitimization of administrations, a subject studied in relation to the development of the administrative tasks to be performed[43].

[42] Please refer to E. BERMAN, *A government of laws and not of machines*, in 12 *B.U. L. Rev.* (2018), 1277.

[43] R. MATHEUS, M. JANSSEN, D. MAHESHWARI, *Data science empowering the public: data-driven dashboards for transparent and accountable decision-making in smart cities*, in 7 *Government Information Quarterly* (2018), 84 ff., "to avoid incorrect drifts from the use of the data, government data scientists need in-depth knowledge of statistics and data analytics for analyzing data, as

However, banally, the most relevant risk is that the reality, which must be the first reference for administrations, is more complex, even than more sophisticated and error-free processing that Big Data can provide[44].

Consider about welfare policies, which must be implemented on the basis of Big Data[45]. The analysis of data will reveal that same subjects (namely the less well-off classes) must always be recipient of welfare policies and, from an equalising point of view, the Big Data will direct aid towards other subjects of the community who, presumably, will not need that aid.

In these cases, use of Big Data leads to institutional distortion, which is reflected in final administrative decision.

The issue of risks associated with use of Big Data has two concluding remarks.

The first is related to the need for the legislator to become aware of this aspect and the importance it may have in relation to improving the knowledge of the administration and to regulate the matter in an organic manner, with the introduction of procedures for assessing the risk associated with the use of data.

The second, on the other hand, tends to reduce the impact of Big Data, which can undoubtedly provide essential evaluation elements to the administration, which, however, is respon-

well as knowledge on the use of techniques and instruments for predictive purposes and to visualize the results. By combining disciplines, new insights and applications can be created and communicated using dashboards. Nevertheless, data scientist also need to have an understanding of other elements like the policy-making, organization, legislation and public values"

[44] F. COSTANTINO, *Rischi e opportunità*, quoted, 56.

[45] Please refer, in a broader sense, to S. ATHEY, *Beyond prediction: using Big Data for policy problems*, in 355 *Science* (2017), 483 ff.; P. GILLINGHAM, T. GRAHAM, *Big Data in social welfare: the development of a critical perspective on social work's latest 'Eletronic Turn'*, in 20 Social Work (2016), 2 ff.; on the wider relationship between digitization and social connection, M. MORCELLINI, *Se il contenuto della digitalizzazione è il legame sociale*, in *www.federalismi.it*, 2014.

sible for the final decision that cannot be replaced by an automatism[46] (as will be seen in detail *infra*, chapter 3).

Reliability, updating, adequacy of data cross-referenced with others must be verified in all aspects in terms of pertinence by the same administration, in order to avoid that the datafication administers instead of a traditional administration; the subject must always be linked to a support function.

3. *Closing remarks: data hegemony and the required evolution of administrative function*

The data and information are an organizational and procedural component of the administrative action; this first landing must lead to a rethinking of some central aspects[47].

The continuous and progressive importance that data have assumed for the institutional tasks of the administration is undeniable and the advent of *ICT* and the digitalization of public action has contributed to implement this change path.

The issue of data and digital administration (understood as a support for the continuous dissemination of such data) underlines that administrative activity and proceedings increasingly make use of the aid of digital tools administrative decisions are largely based on the use of information sources organized in the form of real digitized databases and managed by public administrations, also in an interconnected perspective at European level[48].

[46] The title of an article is then evocative, S. LAVERTU, *We all need help: Big Data and the mismeasure if public administration*, in 76 *Public Administration Review* (2016), 864 ff.

[47] F.A. ROVERSI MONACO, *Prefazione*, in M. CAMMELLI, M.P. GUERRA (*eds*), *Informazione e funzione amministrativa*, Rimini, 1997, 14.

[48] D.U. GALETTA, *Attività e procedimento nel diritto amministrativo europeo, anche alla luce della risoluzione del Parlamento Europeo sulla disciplina del procedimento per istituzioni, organi e organismi dell'Unione Europea (per i 25 anni di attività della Rivista Italiana di Diritto Pubblico Comunitario)*, in

However, it is necessary to clarify how some classic issues of administrative law change in relation to this so-called datafication, in relation to two main components of the administrative activity, one of static (or organizational) type and the other of procedural nature.

The first question is whether the administration by territory, as conceived in the current legal framework, is still current or should be subject to structural reform.

The subject must necessarily be read in light of the article no. 59 of the CAD, on the issue of territorial data[49], set up to facilitate the availability of public administration data, including local and regional data. At the same time, for coordination within European public administrations, *INSPIRE*[50] (Infrastructure for spatial information in Europe) was set up for interoperability between IT systems at European level.

Such availability of data for all administrations would make it useless to maintain (and therefore at least to reduce in numerical terms) some administrative structures[51], since the same data could be acquired through databases accessible to other administrative structures. In other words, the importance and dissemination of data and information can (or rather should) lead to a simplification of the organizational apparatus[52].

Other aspect to consider concerns the dynamic phase of data acquisition, of cognitive activity in the strict sense of the ad-

Riv. it. Dir. pubbl. com., 2017, 391 ff; G. DELLA CANANEA, D.U. GALETTA (*eds*), *Codice ReNUAL del procedimento amministrativo dell'Unione Europea*, Napoli, 2016.

[49] Information on this subject are available on *www.geodati.gov.it*,

[50] *www.inspire.ec.europe.eu* (2007), European Directive 14 March 2007 (the so-called INSPIRE Directive), no. 2 (2007/2/EC) was implemented in Italy by Legislative Decree 27 January 2010, no. 32, which established the national infrastructure for spatial information and environmental monitoring, as a node of the Community infrastructure.

[51] In these terms, J.B. AUBY, *Il diritto amministrativo di fronte*, quoted, 620.

[52] F. MERLONI, *Le attività conoscitive e tecniche*, quoted, 495 ff.

ministration, i.e. the procedural inquiry, in consideration also of the circumstance that there are no legislative impediments to the use of Big Data for this fact-finding activity[53].

Administrative procedure enquiry changes radically, since the amount of data available is wider, it is provided in a different way to the administrations and requires different competences from those of the past.

Apart from the uncertainty of the processing resulting from the interconnections of the data (which is in any case a central aspect in relation to the administrative activity which rotates and is based on the certainty of the elements of investigation), it is necessary to reflect on two central aspects linked to the investigation conducted by the public administration[54].

The first is to assess how the role of the individual responsible for the administrative proceedings (*RUP*) changes and whether the tasks assigned to them (governed by article no. 6 of Law 7 August 1990, no. 241) are still current[55]. In this perspec-

[53] On the subject, diffusely M. FALCONE, *Big Data*, quoted, 732, the use of the data and information resulting from the processing and analysis of big data could be problematic, as a factual element of the investigation, perhaps as the only element or prevailing element on which the final administrative decision will be based. In this case, the most immediate reflection to be made is that on the nature of the results of these instruments, on the advisability of making these results, which tend to be uncertain, factual assumptions of the administrative decision, which may affect strongly on the rights and interests of citizens.

[54] A. SANDULLI, *The Italian administrative procedure act: back to the future*, in *Ital. J. Pub. L.*, 2010, 273 ff.

[55] On this topic, please refer to N. PAOLANTONIO, *Interesse pubblico specifico e apprezzamenti amministrativi*, in *Dir. amm.*, 1996, 413 ff. (spec. paragraph no. 8); on the traditional role of the RUP, G. CORSO, *Il responsabile del procedimento*, in F. TRIMARCHI (*ed*), *Procedimento amministrativo fra riforme legislative e trasformazioni dell'amministrazione. Atti del convegno Messina-Taormina, 25-26 febbraio 1988*, Milano, 1990, 59 ff.; G. PASTORI, *Amministrazione e procedimento*, in *Il cittadino e la pubblica amministrazione: giornate di studi in onore di Guido Corso. Palermo 12 e 13 dicembre 2014*, Napoli, 2016, 21 ff.; C. MIGNONE, *Note sul responsabile del procedimento amministra-*

tive of composition and mediation of interests, the function of the *RUP* is not weakened, on the contrary, it is re-evaluated in a context aimed at not replicating actions that can have a decisive support from the data that the administration has available[56].

In other words, it is necessary to understand whether it is appropriate to identify a competent person (to be attached to the *RUP*), within the public administration, for the use of such data or it is necessary to rethink the administrative investigation activity in an organic sense and therefore also the role of the *RUP*.

The necessary character of the *RUP* is retained, relating to its propulsion and to the direction of the investigation, the function of governing the proceedings. However, some purely inspection tasks could be re-evaluated in relation to the data available to it, with a view to the efficiency of the action and avoiding waste of human and financial resources to duplicate unnecessary activities.

Another central aspect, linked to one of the historically weakest and most reformed aspects of the administrative inve-

tivo, in *Quad. reg.*, 1991, 39 ff.; G. CORSO, *Il rapporto amministrativo visto dal 'terzo'*, in *Dir. proc. amm.*, 2014, 585 ff.; M. IMMORDINO, M.C. CAVALLARO, N. GULLO, *Il responsabile del procedimento*, in M.A. SANDULLI (*ed*), *Codice dell'azione amministrativa*, Milano, 2017, 525 ff.; M. RENNA, *Il responsabile del procedimento nell'organizzazione amministrativa*, in *Dir. amm.*, 1994, 15 ff.; E. FREDIANI, *Il modello processuale di Franz Klein: dal conflitto alla funzione di mediazione del responsabile del procedimento*, in *Dir. soc.*, 2017, 697 ff., the person responsible for the administrative procedure manages and resolves conflicts between the administration and the citizen, through a constructive mediation function; F. SAITTA, *Interrogativi sul c.d. divieto di aggravamento: il difficile obiettivo di un'azione amministrativa «economica» tra libertà e ragionevole proporzionalità dell'istruttoria*, in *Dir. soc.*, 2001, 491 ff.; F. MERUSI, *Il coordinamento e la collaborazione degli interessi pubblici e privati dopo le recenti riforme*, in *Dir. amm.*, 1993, 21 ff.

[56] In a broad sense, on the crisis of certain aspects of functional suitability for administrative activity, see already C. BARBATI, *L'attività consultiva nelle trasformazioni amministrative*, Bologna, 2002, 249 ff.

stigation, i.e. the conference of services[57], a legal institution (in its intentions) oriented towards a simultaneous examination of the interests at stake, which could be rendered superfluous or at least subject to a structural reform in the light of technological developments and the amount of data that administrations have at their disposal. The conference of services was set up as a meeting place, a place for increasing knowledge among public administrations in order to operate an operational coordination between different public subjects, for a more informed decision by the proceeding administration.

In addition to computerization of the institute, it should be assessed whether the current discipline is still responsive to the needs of the developing administration, where the full availability of data takes on a central role.

Consider about the article no. 14.2, Law 7 August 1990, no. 241, on the subject of the acquisition (by the proceeding administration) of opinions, clearances and agreements held by other public administrations; the operation at full capacity of the databases, in which all the information and public data are available to all the public subjects makes this provision obsolete[58].

The flow of data and the relative knowledge of the reality that derives from it (provided that interconnected databases

[57] In consideration of the vast literature on the subject, reference should be made, *ex multis*, to the inconic work written by F. SALVIA, *Prove di realismo nello studio del diritto amministrativo. Sulla conferenza di servizi e dintorni (Psicoanalisi degli 'uomini del fare' e rivisitazione della 'donna è mobile')*, in *Dir. econ.*, 2018, 319 ff., according to which this legal institution was to blame for weakening the cognitive phase of administrative action; D. D'ORSOGNA, *Conferenza di servizi e amministrazione della complessità: profili ricostruttivi*, Roma, 2002; A. POLICE, *Il decisore amministrativo: prospettive e limiti della nuova conferenza di servizi*, in P.L. PORTALURI (*ed*), *L'amministrazione pubblica nella prospettiva del cambiamento: il codice dei contratti e la riforma Madia*, Napoli, 2017, 19 ff.; M. GOLA, *L'organizzazione in senso dinamico, la conferenza dei servizi e il difficile cammino della semplificazione amministrativa*, in *Scritti in memoria di Roberto Marrama*, II, Napoli, 2012, 898 ff.

[58] The same conclusions were reached by F. MERUSI, *La certezza dell'azione amministrativa nello spazio e nel tempo*, in *Dir. amm.*, 2002, 527 ff.

and administrations are ready to use them) can be the pretext for making the conference the place of intersection of different interests for which it was introduced and regulated.

SECTION TWO.
THE RISKY (BUT PROBABLE) DISAPPEARANCE OF INDIVIDUAL RIGHTS FROM DATA: CRITICAL NOTES ON THE PROTECTION OF PRIVACY AND SECURITY

4. *Open data, Open Government, e-Govrnement: beyond administrative transparency*

The use of data and its increasing importance has consequences not only for the internal and procedural profiles of administration but also, of course, for the administrated, i.e. citizens.

First of all, also from a semantic point of view, the notion of 'Open Data' comes to the fore, as that statement covers a set of public policies aimed at promoting the free use of information contained in databases held by administrations, for the unrestricted and free access to data without restrictions on their reuse and with the obligation to keep the conditions of free use in perpetuity and to quote the source[59].

[59] This defintion was given by E. CARLONI, *L'amministrazione aperta*, Rimini, 2014, 265 ff.; see G. CARULLO, *Gestione, fruizione e diffusione dei dati dell'amministrazione digitale e funzione amministrativa*, Torino, 2017, 8 ff., the data assume a renewed dimension from which derive important consequences both in terms of the way in which they are organised, managed and used, both in relation to the role that the administration itself can play in relation to them; D. MARONGIU, *I dati aperti come strumento di partecipazione al procedimento amministrativo*, in S. CIVITARESE MATTEUCCI, L. TORCHIA (*eds*), *La tecnificazione* (Vol. IV), in L. FERRARA, D. SORACE (*eds*), *A 150 anni dall'unificazione amministrativa italiana. Studi*, Firenze, 2016, 77 ff.; F. DI

The subject of Open Data is regulated by European Directive 2013/37/EU which requires Member States to allow the reuse of information held by administrations, a discipline transposed in the CAD and specifically in the article no. 52[60].

The criterion of the Open Data allows citizens to access not only the single data, but also so-called datasets, that is, a series of data already structured in relation to each other[61]. In other terms, this approach shows a decisive change of approach, because the Open Data is based on the idea that administrations must guarantee (or in any case must not obstruct) the free use of its information assets[62].

The perspective, compared to what has been analyzed in terms of data that can be used within public administrations, changes considerably. 'Open (Government) Data' includes all public information assets that are accessible and reusable by anyone, following a process of making data available by the administrations that hold them.

The notion of Open Data allows the introduction of the related notion of Open Government, defined by the OECD General Report in 2016, as "a culture of governance based on innovative and sustaiable public policies and practices inspired by the principles of transaprency, accountability and participation

MASCIO, *Open data e trasparenza in Italia: quantità senza qualità*, in A. NATALINI, G. VESPERINI (*eds*), *Il big bang della trasparenza*, Napoli, 2015, 279 ff.

[60] On the legislative procedure and its immediate consequences, see F. MINAZZI, *Il principio dell'open data by default nel Codice dell'Amministrazione Digitale: profili interpretativi e questioni metodologiche*, in *www.federalismi.it*, 2013.

[61] D.U. GALETTA, *Open government, Open data*, quoted, 676; F. COSTANTINO, *Lampi. Nuove frontiere*, quoted, 813; O. BORGOGNO, *Regime di condivisione dei dati ed interoperabilità: il ruolo e la disciplina delle A.P.I.*, in *Dir. inf.*, 2019, 689 ff.

[62] About that point, F. PATRONI GRIFFI, *La trasparenza della pubblica amministrazione tra accessibilità totale e riservatezza*, *in www.federalismi.it*, 2013.

that fosters democracy and inclusive growth[63]". For different meanings[64], Open Government is defined as the institutional capacity to be transparent about its actions and decisions, to make public services and information accessible, to incorporate and respond to new needs and challenges coming from civil society.

The role that *ICT* has had in relation to the evolution of the two notions is intuitable; the possibility of having information in real time, the greater diffusion are essential elements for an effective implementation of the Open Government.

ICT constitute the support that allows the development of the Open Government, and the report leads to the further notion of e-government[65]; e-government is the expression of a radical paradigm change in the relationship administration-citizens, because it requires a continuous synergy between public actors and end users of the services offered by administrations.

The themes of Open Data and Open Government should not be superimposed and blurred with the different theme of

[63] OECD, *Open Government. The global criteria and the way forward*, Paris, 2016; D.U. GALETTA, *Open Government, Open Data*, quoted, 666; F. COSTANTINO, *Open Government* (encyclopedic voice), in *Dig. Disc. Pubbl.*, Agg. VI, Torino, 2015, 268 ff.

[64] In these terms, L. SARTORI, *Open Government: what else?*, in *Ist. fed.*, 2013, 753 ff.

[65] F. MERLONI*, Sviluppo dell'e-government: la dispersione normativa*, in F. MERLONI (*ed*), *Introduzione all'e-government*, Torino, 2005, 7 ff.; T.M. HARRISON, S. GUERRERO, G.B. BURKE, *Open government and e-government: democratic challanges from a public value perspective*, in 17 *Information Polity* (2012), 83 ff.; A. NATALINI, *L'e-Government nell'ordinamento italiano*, in G. VESPERINI (*ed*), *L'e-Government*, Milano, 2004, 5 ff.; D. HOLMES, *e-Gov. Strategie innovative*, quoted, 54 ff.; M. BOMBARDELLI, *Informatica pubblica*, quoted, 998; ASTRID, *Federalismo informatico e rinnovamento delle isituzioni: dieci tesi sull'e-Government*, in *www.astridonline.it*, 2002; L. TAMKANG, K. CHANG, F. STOKES BERRY, *Testing the development and diffusion of e-government and e-democracy: a global perspective*, in 3 *Public Administration Review* (2011), 79 ff.

administrative transparency[66], even if the link made by the OECD report which identifies transparency as one of the pillars of Open Government requires to deal with the unclear state of art of theme of transparency (or rather transparencies) in Italian legislative context. In other words, it is necessary to point out that themes of transparency and Open Government are not completely fungible, but they are functional among themselves, maintaining a marked autonomy; transparency, in a broad sense and not related to the legislative experience of individual countries, is functional to the achievement of Open Government.

The theme of Open Data is linked to that of transparency since availability of Open Data is read precisely in order to achieve administrative transparency; in support of this interpretation, CAD obliges administrations to publish data in accordance with the rules governing transparency[67].

5. *The uncertain legislative scenario of administrative transparency in Italian law*

Combined reading of the CAD (Open Data) provisions and administrative transparency gives a sense of how much the administration is changing and the use of *ICT* leads to the culmination of that process of bringing the citizen closer to the administration, which began with the reforms that interested the administration in the 1990s.

[66] On this risk, see again D.U. GALETTA, *Open Government, Open Data*, quoted, 677, the theme of Open Data is connected and sometimes confused with the topic of transparency; in a specific perspective, that of the fight against corruption, see B. PONTI, *From eGov to OpenGov: the Open Data approach*, in E. CARLONI (*ed*), *Preventing corruption through administrative measures*, Perugia, 2019, 313 ff., in which it is noted the possibility of orienting the Open Data towards different purposes, in relation to the neutrality of the concepts referred to in the opening of this book.

[67] Article no. 53.1-bis of the CAD provides for the publication of data in accordance with article no. 9 of Legislative Decree 14 March 2013, no. 33.

At this stage of the investigation, it is appropriate to give an account, albeit in a concise manner, of developments in Italian legislation in terms of transparency.

The issue of administrative transparency is extremely complex and particularly articulated in Italian legilslation[68].

[68] The legal literature on transparency is extensive and extremely authoritative, without pretending to be exhaustive in this review, please refer to R. VILLATA, *La trasparenza dell'azione amministrativa*, in *Dir. proc. amm.*, 1987, 534 ff.; C. MARZUOLI, *Diritto d'accesso e segreto d'ufficio*, in M. CAMMELLI, M.P. GUERRA (*eds*), *Informazione e funzione amministrativa*, Rimini, 1997, 258 ff., publicity and confidentiality in administrative action evoke multiple perspectives and legitimate cultural and legal pluralism; A. SIMONATI, *La trasparenza amministrativa e il legislatore: un caso di entropia normativa?* in *Dir. amm.,* 2013, 749 ff.; A. SIMONATI, *La ricerca in materia di trasparenza amministrativa: stato dell'arte e prospettive future*, in *Dir. amm.,* 2018, 311 ff.; G. ARENA, *Le diverse finalità della trasparenza amministrativa*, in F. MERLONI, G. ARENA (*eds*), *La trasparenza amministrativa*, Milano, 2008, 29 ff.; C. MARZUOLI, *La trasparenza come diritto civico alla pubblicità*, in F. MERLONI, G. ARENA (*eds*), *La trasparenza amministrativa*, Milano, 2008, 45 ff.; G. GARDINI, *Il paradosso della trasparenza in Italia: dell'arte di rendere oscure le cose semplici*, in *www.federalismi.it,* 2017, 3, the Italian legislator, in the regulation of the *FOIA* model was not clear and the guidelines released by *ANAC* (a soft law tool) can not fill a gap of the regulatory system; G. GARDINI, *La nuova trasparenza amministrativa: un bilancio a due anni dal 'FOIA' Italia?*, in *www.federalismi.it*. 2018; M.C. CAVALLARO, *Garanzie della trasparenza amministrativa e tutela dei privati*, in *Dir. amm.*, 2015, 121 ff.; E. CARLONI, M. FALCONE, *L'equilibrio necessario. Principi e modelli di bilanciamento tra trasparenza e 'privacy',* in *Dir. pubbl.*, 2017, 723 ff.; E. CARLONI, *La 'casa di vetro' e le riforme. Modelli e paradossi della trasparenza amministrativa,* in *Dir. pubbl.*, 2009, 779 ff.; M. SAVINO, *Il FOIA italiano. Il fine della trasparenza di Bertoldo*, in *Giorn. dir. amm.*, 2016, 593 ff.; B. PONTI, *La trasparenza amministrativa come fattore abilitante della cittadinanza amministrativa*, in A. BARTOLINI, A. PIOGGIA (*eds*), *Cittadinanze amministrative* (Vol. III), in L. FERRARA, D. SORACE (*eds*), *A 150 anni dall'unificazione amministrativa italiana. Studi*, Firenze, 2016, 221, 225; D.U. GALETTA, *Trasparenza e contrasto della corruzione nella pubblica amministrazione: verso un moderno panottico di Bentham?*, in *Dir. soc.*, 2017, 43 ff.; M. OCCHIENA, *I principi di pubblicità e trasparenza*, in M. RENNA, F. SATTA (*eds*), *Studi sui principi del diritto amministrativo*, Milano, 2012, 141 ff.; D.U. GALETTA, *La trasparenza, per un nuovo rapporto tra cittadino e pubblica amministrazione*, quoted, 1023; M. AVVISATI, *Accesso procedimentale "versus" accesso civico nel dialogo fra le fonti:*

The term 'transparency' in the Italian administrative law has

il caso FOIA, in *Osservatorio sulle fonti*, 2017; D.U. GALETTA, *The Italian Freedom of Information Act 2016. Why trasparency-on-request is a better solution*, in *Ital. J. Pub. L.*, 2016, 269 ff.; F. DE LEONARDIS, *Tra obblighi di trasparenza e diritto alla riservatezza: verso una trasparenza di tipo "funzionale"*, in *Giornale di Storia Costituzionale*, 2015, 175 ff.; F. MANGANARO, *Evoluzione del principio di trasparenza*, in *Studi in memoria di Roberto Marrama*, I, Napoli, 2012; M. LUNARDELLI, *The reform of Legislative Decree No. 33/2013 in Italy: a double track for transparency*, in *Ital. J. Pub. L.,* 2017, 143 ff., "the concepts of transparency and publicity do not coincide, as the former has a broader meaning. It implies not only accessibility to records and information, but also the need that their content be comprehensible and clear. Only if all these requirements are met, knowability may turn into actual knowledge. Since fulfilling obligations of publications on administrations official websites does not ensure *per se* that what is published possesses these requirements, it is proper to keep distinguishing – on a theoretical level – between publicity and transparency. This distinction has found confirmation in transparency decree as amended by Legislative Decree No. 97/2016. The 2016 reform of transparency decree resulted in equating civic access to obligations of publication imposed upon administrations as to the function to implement transparency. Civic access is not just an instrument aimed at enforcing such obligations anymore, but constitutes now a generalized access manifestly modeled upon typical *FOI* (freedom of information) legislation"; about the transition from the traditional administrative transparency to an open government system, please refor to the analysis carried out by S. VACCARI, M. RENNA, *Dalla 'vecchia' trasparenza amministrativa al c.d. open government*, in *www.giustamm.it*, 2019; D.U. GALETTA, *Accesso (civico) generalizzato ed esigenze di tutela dei dati personali ad un anno dall'entrata in vigore del Decreto FOIA: la trasparenza de "le vite degli altri"?*, in *www.federalismi.it*, 2018, 17, the inevitable conflict between the principle of transparency, on which contemporary democracies are based, and the right to privacy cannot be resolved by an employee, in a regulatory context of absolute uncertainty; C. DEODATO, *La difficile convivenza dell'accesso civico generalizzato (FOIA) con la tutela della privacy: un conflitto insanabile?*, in *www.giustizia-amministrativa.it*, 2017; for a reconstruction of the theme from the perspective of administrative secrecy, please refer to M. CAPORALE, *Segreto di Stato, segreto amministrativo e sistema di classificazione delle informazioni*, Bologna, 2013, 15 ff.; on the delicate relationship between transparency and development of digitalization, see F. MANGANARO, *Trasparenza*, quoted, 25, the extension of *IT* systems has positive effects in terms of improving the effectiveness of administrative action, also with a view to simplification; F. FRANCARIO, *Il diritto di accesso deve essere una garanzia effettiva e non una mera declamazione teorica*, in

a polysemic meaning, infact it should be spoken of transparencies, in the light of the recent stratification of legislation, which also lacks coordination between rules. In this regard, it has been evocatively spoken of three types of transparency to obtain a persistent opacity[69].

The topic and its discipline have received particular attention in last thirty years, also thanks to the decisive contribution of interpreters and scholars[70].

For the subject analyzed in this study, concerning the total accessibility of data in order to reuse them, the Italian legislator has decisively changed the discipline starting with the Legislative Decree 14 March 2013, no. 33, in a process of bringing Italian law closer to European standards.

Legislative Decree released in 2013, a sort of single text on transparency (in a improper sense) aimed to promote widespread forms of control to achieve an open administration, through the publication of the data indicated by the Decree 33 itself on institutional websites of public administrations. For the first time in Italian law there was an obligatory publication of data for public administrations, a legal institution commonly known as civic access, even if the entire text of the law is based on the misunderstanding that transparency must be understood

www.federalismi.it, 2019, 7 ff., the various legislative measures have not been well coordinated with each other and that this has led to some confusion among the different access figures currently provided for in the legislation; B. CAROTTI, *L'amministrazione digitale e la trasparenza amministrativa*, in *Giorn. dir. amm.*, 2015, 625 ff.

[69] E. CARLONI, F. GIGLIONI, *Three transparencies and the persistence of opacity in the Italian Government System*, in 23 *European Public Law* (2017), 285 ff.

[70] G. ABBAMONTE, *La funzione amministrativa tra riservatezza e trasparenza. Introduzione al tema*, in *L'amministrazione pubblica tra riservatezza e trasparenza. Atti del XXXV Convegno di Studi di Scienza dell'Amministrazione – Varenna 1989*, Milano, 1991, 13 ff., transparency is a rule of correct administrative action since public activity must be controlled in its deployment and in its final results.

in the limited sense of measures to prevent corruption, when, on the contrary, it must be a value to be pursued by public administrations.

Two years after the introduction of Legislative Decree 33 of 2013 – which marked an epoch-making change in the relationship between private and public administration, because for the first time, publication became an obligation for the public subject and not a right (to ask for it) on the part of citizens – the Law 7 August 2015, no. 124 (the aforementioned 'Madia Law') delegated the government to amend Decree 33 of 2013 and to introduce, on the basis of the European drives, the '*FOIA*' model.

The troubled legislative path of transparency culminated in the enactment of the Legislative Decree 25 May 2016, no. 97 that introduced the Italian version of the Freedom of Information Act (*FOIA*), that provides for the right to know data held by the public administration, except for those that are expressly excluded.

In other words, the knowability of the administrative data is no longer a right but it becomes a general principle. All citizens can apply for access through the '*FOIA*' form, there is no obligation to justify the application and it is free of charge and can be submitted electronically[71].

[71] M. SAVINO, *Il FOIA italiano*, quoted, 596, complex informations (e.g. aggregation and re-elaboration of dispersed data) are excluded from the '*FOIA*' area; on the subject, it is necessary to report Cons. St., Sec. III, 6 March 2019, no. 1546, the Italian *'FOIA'* model is a legal tool to encourage spontaneous cooperation of citizens with public institutions through participation in decisions and actions concerning to the care of common goods, in the awareness that the active participation of citizens in collective life can contribute to improve the capacity of institutions to give more effective responses to the needs of people and to the satisfaction of social rights that the Constitution recognizes and guarantees. The *'FOIA'* model pursues three different objectives, the first, accountability that aims to allow widespread control over the work of public bodies in order to avoid corruption, the second, participation, aims to ensure citizens an informed participation in public de-

The guidelines provided by the National Anticorruption Authority (*ANAC*) have been added to this complex legislative system, with the aim of clarifying the rules applicable to each hypothesis and preparing the necessary organizational adjustments for administrations to correctly apply the rules[72].

This brief survey of the current state on the issue of the accessibility of data by individuals and more generally on the issue of transparency of administrative action may seem marginal with respect to the subject under investigation, but it is somehow functional to the spread of Open Data (not only in terms of reuse patterns) and the related development of an interconnected administration, even if it does not exhaust itself in the area of transparency but goes much further.

In other words, administrative transparency, intended as unlimited accessibility to data held by the public administrations, is a tool for implementation of one of the pillars of the evolving administration (a method, not an aim-pillar, as explained above), that is the sharing of resources, performance and data[73], a tract that leads to two summary considerations.

cisions and, finally, legitimacy that aims to strengthen the same public administrations, which must act in complete transparency towards citizens.

[72] ANAC, resolution 28 December 2016, no. 1309 avaiable on *www.anticorruzione.it*.

[73] F. FRACCHIA, P. PANTALONE, *Smart city: condividere per innovare*, quoted, 10, smart initiatives require the sharing of data, information and experience and, in this sense, a system that allows full accessibility to such content is functional to the pursuit of a evolving administration; G. DE MINICO, *Big Data e la debole resistenza delle categorie giuridiche. Privacy e lex mercatoria*, in *Dir. pubbl.*, 2019, 89 ff., the Big Data issue requires a critical review of the categories of law, especially in the light of the right to privacy and the categories of privacy and the *lex mercaoria* issue. The starting point for this tension between patrimonial protection and protection of fundamental freedoms (with all that follows) is linked to the studies by S. RODOTÀ, *Tecnologia e diritti*, Bologna, 1995, 21 ff., according to which the right to privacy in the technological scenario must constitute a right of the same holder to control the data he has externalised and, if necessary, to correct and delete them, thus constituting a dynamic and continuous (and therefore more appropriate)

First, the adoption of the *FOIA* is the legal precondition to create legal basis for an effective Open Government which, for its part, is one of the key features of new administration that is developing.[74].

Secondly, complete accessibility to all information has a direct positive impact on the dissemination of data and on the wiring of public administrations, in terms of the re-use of such data.

Transparency, and the two models of civic access and *FOIA* in particular, can be a legislative vehicle that facilitates sharing of information and an inclusive governance, a primary factor for the development of of the constantly changing administration.

The joint reading of provisions of CAD and of the publication methods provided for by the legislation on transparency require two concluding reflections, the second of which opens up the analysis carried out in the next paragraph.

The first concerns the actuality of the article no. 22, of Law 241 of 1990[75], the introduction of which marked the beginning of a new season of relations between the administration and citizens; the provisions above mentioned make, at least in the long term, this rule obsolete, unactual because the continuous and uninterrupted flow of data and its publication will make all the information assets accessible and the request of the indivi-

protection of the right in question. In this sense, the traditional protection of privacy assisted by the guarantees of autonomy and awareness (*consent based*) is inadequate; F. MANGANARO*, Trasaparenza*, quoted, 36, the technical and legal problem of Big Data is linked to the opacity of the procedure and its operation; M.T. DE TULLIO, *La privacy e i Big Data verso una dimensione costituzionale collettiva*, in *Pol. dir.*, 2016, 637 ff.

[74] F. FRACCHIA, P. PANTALONE, *Smart city: condividere per innovare*, quoted, 6, among the specific features of the phenomenon that will eventually have to be regulated by an organic discipline for smart cities, there are the inclusion, access to information and the development of technologies.

[75] In general terms, see G. NAPOLITANO, *La legge n. 241/1990 è ancora attuale?*, in *Giorn. dir. amm.*, 2017, 145 ff.

dual document to the administration (and everything that follows in terms of inertia, delays) will become a vestige.

The second is a systemic consideration; the process of continuous rapprochement between the private sector and the administration, of total disclosure of the acts of the administration is a process that has taken years and has led to unexpected results but, to date, probably, should be rethought, to avoid risks for both subjects, the most obvious of which concern the issue of violation of privacy and the aspect of security.

6. *Potential critical issues of Open Government from citizens perspective: privacy and security protection*

The model outlined on the basis of the co-reading of the discipline on the subject of transparency and re-use of data held by public administrations finds in the *ICTs* a sounding board, which while on the one hand entails enormous potential for the good progress of administrative action, on the other hand risks exposing the citizens to violations in terms of protection of privacy and security[76], two issues that must be analyzed separately.

6.1 *Privacy protection, data sharing and evolving administration development: exploring a possible balance point*

The first theme to be addressed, which is potentially under pressure due to the diffusion of data through the use of *ICT*, is the issue of the protection of privacy, understood as a counter

[76] For a summary between the two aspects, please refer to S.B. SPENCER, *Security versus privacy: reforming the debate*, in 79 *Denver Un. L. Rev.* (2002), 79 ff.; in terms of tension between privacy (in these terms) and the cognitive activity of the administration, see F. LEVI, *L'attività conoscitiva*, quoted, 27, that noted the existence of delicate conflicts to be balanced for the administration.

limit to the development outlined in the first section of this chapter.

The issue of privacy must be reinterpreted in relation to traditional developments, because the whole complex of relations between data, *IT* and public administrations must be read in the paradigm of functions exercised by public administrations[77].

In other words, there must be a functional link between the ability of public administrations to process personal data and the complex of functions attributed. There must be a practical connection between the data and the function exercised, as is already clear from European Directive 1996/54/EC.

The whole issue between the use of data held by administrations and the protection of privacy must be read in this light,

[77] On the subject of the relationship between privacy and new technologies, see the analysis carried out by D.U. GALETTA, *Informal information processing in dispute resolution networks: informality versus the procection of individual's rights?*, 20 *European Public Law* (2014), 71 ff.; B. CAROTTI, *Una pronuncia della Corte Suprema su privacy e nuove tecnologie*, in *Riv. trim. dir. pubbl.*, 2014, 869 ff., about the need to read the risks linked to the compression of the protection of privacy on the basis of the interference of new technologies; S. VIGLIAR, *Privacy e comunicazioni elettroniche: la direttiva 2002/58/CE*, in *Dir. inf.*, 2003, 401 ff.; D. CALENDA, *Il dibattito internazionale sui limiti e le tendenze delle politiche per la tutela della privacy in Internet*, in *Riv. it. Dir. pubbl. com.*, 2001, 531 ff.; G. BUTTARELLI, *Privacy, sicurezza, nuove tecnologie al bivio di nuove scelte strategiche*, in *www.federalismi.it*, 2015, data protection is also called upon to answer some questions revolving around the prospects of the cyclopean use of information for very sophisticated mass processing, such as Big Data, as well as the ethical profile of the development of certain technologies since not everything that is technically feasible is socially acceptable: a task that therefore goes beyond the traditional protection of the rights of the personality, and that can contribute to a better balance of multiple public and private interests; A. COLAPS, *Open data, riutilizzo e protezione dei dati personali*, in A. CORRADO (*ed*), *Conoscere per partecipare: la strada tracciata dalla trasparenza amministrativa*, Napoli, 2018, 279 ff.; on the subject, in a more traditional sense, M. CLARICH, *Trasparenza e protezione dei dati personali nell'azione amministrativa*, in *Foro amm. TAR*, 2004, 3885 ff.

since the particular and privileged position of public authorities requires a more adequate level of protection of privacy.

Open Data (also in the Big Data version) and their diffusion and reuse and privacy protection are obviously conflicting values, and it is extremely complex to find a balancing point, and the solutions that Italian law proposes for this purpose are different.

Continuous re-use of data makes it necessary to adapt protection to this dynamic aspect; data cannot receive static protection (the traditional protection of privacy), but are protected in function of the reuse of them. Therefore, the nature of the protection does not depend on the data *per se*, but it depends by the nature of the re-use of the data.

One of the most problematic aspects of data protection concerns the so-called data mining, i.e. a technique for extracting data through *ICT*[78].

The topic of data mining raises questions of conflict with the protection of privacy, since it is a method of data processing that is often not very transparent. Through the process of data mining, it is possible to discover hidden patterns and fine connections between the data and to deduce from this rules to predict future results.

However, the subject must be read from the perspective of the citizen and therefore of the value to be protected, that is privacy, whose same dedication seems to be elusive and linked

[78] W.M.P. VAN DER AALST, *Process mining. Discovery, conformance and enhancement of business processes*, Berlin, 2011, 29 ff., process mining is an emerging discipline based on process model-driven approaches and data mining. It not only allows organizations to fully benefit from the information stored in their systems, but it can also be used to check the conformance of processes, detect bottlenecks, and predict execution problems; for a definition of data mining, please refer to COMMITEE ON GOVERNMENTAL AFFAIRS (US Senate), *Data mining. Federal efforts to cover a wide range of use*, avaiable on *www.gao.gov.us* (2004); on the subject, in Italian law, see P. SAVONA, *Administrative decision-making*, quoted.

(in terms of protection prepared) to the historical period of reference[79].

Privacy is "a chameleon-like word, used denotatively to designate a wide ragne of widly disparate interests – from confidentilaty of personal information to reproductive autonomy – and connotatively to generate goodwill on behalf of whatever interest is being asserted in its name[80]". Privacy is "vague and

[79] S. RODOTÀ, *Privacy, freedom and dignity. Conclusive Remarks at the 26th International Conference on Privacy and Personal Data Protection*, available on *www.garanteprivacy.it,* 2004, "privacy is therefore to be regarded as a key component of the equality society. In the absence of strong safeguards for the data concerning political opinions or membership of parties, trade unions, and associations, citizens run the risk of being excluded from democratic processes. Thus, privacy is becoming a prerequisite for being included in the participation society. In the absence of strong safeguards for the 'electronic body', the set of information gathered in our respect, personal freedom as such is in danger. Therefore, there is little doubt that privacy is a necessary tool to defend the society of freedom and counteract the drive towards establishment of a society based on surveillance, classification, and social selection"; S. CALZOLAIO, *Digital (and privacy) by default. L'identità costituzionale* dell'amministrazione digitale, in *Giornale di Storia Costituzionale*, 2016, 187 ff.

[80] L.R. BE VIER, *Information about individuals in the hands of Government: some reflections on mechanism for privacy protection*, in 4 *William & Mary Bill of Righs Journal* (1995), 455 ff., "The claim to informational privacy that is embodied in the supposed right to withhold consent from subsequent uses of true information about oneself does not rest on the societal value of accurate decisionmaking by government in individual cases; nor does it rest on the efficient achievement of the government's policy goals. Indeed, claims to informational privacy are in considerable tension with both accurate decisionmaking and efficient policy implementation. Informational privacy is about individual control of information regarding oneself"; see also F. CHARLES FRIED, *Privacy*, in 77 *Yale L. Jour.* (1968), 475 ff.; D.J. SOLOVE, *A taxonomy of privacy*, in 154 *Univ. Penn. L. Rev.* (2006), 477 ff., "despite the wide-ranging body of law addressing privacy issues today, commentators often lament the law's inability to adequately protect privacy. Courts and policymakers frequently have a singular view of privacy in mind when they assess whether or not an activity violates privacy. As a result, they either conflate distinct privacy problems despite significant differences or fail to recognize a

evanescent[81]" and suffering from an embarrassment of meanings.

In other words, term 'privacy' is a multifaceted word, meaning a variety of legal goods and interests that are protected differently by law. Debate on privacy also includes issues of the regime of information, in double role of legal asset and fundamental right, a circumstance that falls under the theme of Big Data.

The debate acquires greater importance in the light of the emanation of The General Data Protection Reugulation (*GDPR*) (EU 2016/679), applicable in Italy from May 2018[82].

problem entirely. Privacy problems are frequently misconstrued or inconsistently recognized in the law. The concept of 'privacy' is far too vague to guide adjudication and lawmaking".

[81] A.R. MILLER, *The assault on privacy: computers, data banks and dossiers*, University of Michigan, 1971, 25 ff.

[82] For a comment on the rule, please refer to G. FINOCCHIARO, *Riflessioni sul poliedrico Regolamento europeo sulla privacy*, in *Quad. cost.*, 2018, 895 ff., the right to data portability is an example of this broad scope, as the right to receive data in a readable format that can be re-used as well; E.F. CERASARO, *Il bilanciamento tra trasparenza e privacy. Il Regolamento UE 679/2016 (GDPR)*, in A. CORRADO (*ed*), *Conoscere per partecipare: la strada tracciata dalla trasparenza amministrativa*, Napoli, 2018, 215 ff.; V. BERLINGÒ, *Il fenomeno della datification*, quoted, 655 ff., the *GDPR* admits the existence of a European public interest in the circulation of data in the digital space; F. DI RESTA, *La nuova 'privacy europea'. I principali adempimenti del regolamento UE 2016/679 e i profili risarcitori*, Torino, 2018, 61 ff.; F. PIZZETTI, *Privacy e il diritto europeo alla protezione dei dati personali. Il regolamento europeo 2016/679*, Torino, 2016, 21 ff.; R. DUCATO, *La crisi della definizione di dato personale nell'era del web 3.0*, in F. CORTESE, M. TOMASI (*eds*), *Le definizioni del diritto*, Napoli, 2016, 151; E. D'ALTERIO, *Protezione dei dati personali e accesso amministrativo: alla ricerca dell'ordine perduto*, in *Giorn. dir. amm.*, 2019, EU Regulation 679/2016 has an impact on the relationship between personal data protection and administrative access, establishing a mechanism of reference to national regulations, further specified in the internal decree of the 2018 adjustment. However, this concatenation of disciplines makes the whole structure complex and stratified, effectively entrusting the very difficult task to the public administrations to identify the access regime applicable on a case-by-case basis, from which specific rules derive of the relationship

Purposes of this regulation are very broad, and they go far beyond the mere protection of personal data.

In a legislative context that is increasingly inspired by principle of openness and transparency, there is a clear need to monitor legitimacy of re-use of such data and not to violate right to confidentiality as protected by article no. 15 of the Constitution[83].

with protection of personal data. The mobile and relative nature of this system produces some disorders linked not only to the difficult balances that usually characterize the matter, but even further upstream, make the search for the right set of rules to time in time difficult applicable for the interpreter; M.G. STANZIONE, *Genesi ed ambito di applicazione*, in S. SICA, V D'ANTONIO, G.M. RICCIO (*eds*), *La nuova disciplina europea della privacy*, Padova, 2016, 14 ff.; with specific reference to the theme of the relationship between algorithm and privacy, see A. MORETTI, *Algoritmi e diritti fondamentali della persona. Il contributo del regolamento (UE) 2016/679*, in *Dir. inf.*, 2018, 780 ff.; M. BASSINI, *La tutela degli indirizzi IP dinamici e la privacy digitale*, in *Quad. cost.*, 2017, 165 ff.

[83] S. RODOTÀ, *Il diritto di avere diritti*, Roma-Bari, 2012, 380 ff., the enormous potential of data processing leads to new legal problems, including the need for a single regulation for Internet. The issue is extremely delicate and is not limited to the management of data and the related right to privacy but involves certain fundamental rights of the human person; E. PODDIGE, *La tutela della riservatezza dei dati personali nelle comunicazioni elettroniche e il diritto di autodeterminazione dell'interessato*, in F. CARDARELLI, S. SICA, V. ZENO-ZENCOVICH (*eds*), *Il codice dei dati personali. Temi e problemi*, Milano, 2004, 466 ff., in the case of online communications, the tracking of the users navigation paths raises relevant issues of privacy protection; recently on the subject, please refer to I.A. NICOTRA, *Privacy vs trasparenza, il Parlamento tace e il punto di equilibrio lo trova la Corte*, in *www.federalismi.it*, 2019, which, in her commentary on Constitutional Court Decision no. 20 of 2019, underlines that the individual parameters to be used in the balancing of values constitute a unitary set of figures. The challenge between confidentiality and transparency is complex, because in the digital world there are both dangers and opportunities. The private sphere of the individual is undermined by the circulation of data, information which, while favouring the issue of transparency, on the other hand the right to privacy risks being compressed and compromised. Moreover, the principles of European origin, of such as proportionality, relevance and not overuse, which govern the subject of the

The protection of data privacy can no longer be limited to this, but must be linked to the light of their continuous reuse, avoiding balancing in a static and predetermined sense[84]. Data are a kind of destination-value that must be protected according to the purpose for which the use of data is intended, and the balance with privacy must be conducted case by case, in concrete terms.

In other words, it is no longer the data that must obtain protection, but the continuous reuse, as if the privacy had to follow in the different reworkings not only the starting data but all the (infinite) information that can derive from the relationship with other data.

However, this new version of privacy (previously defined as chameleonic notion) seems to be not very effective.

In fact, it is unthinkable to provide protection, even in a dynamic version, to the subject whose data have been reworked countless times by *ICT* and have led to countless other data that also escape the protection of the new European Regulation.

The issue of privacy, today, seems to be the real weak point of the evolving pattern of public administration, in which data assumes an increasingly central role and privacy of citizens is greatly sacrificed.

6.2 *Thoughts from a hypothesis of failure of regulation: the Google Glass affair, risks to privacy and security*

Another aspect that is potentially in crisis in terms of protec-

processing of personal data, can be used as parameters to carry out a weighting on the conformity of the discipline of the individual States.

[84] On this aspect of dynamic balancing of values, the Italian legal literature is extensive, P. GROSSI, *Introduzione a uno studio sui diritti inviolabili nella Costituzione italiana*, Padova, 1972, 149 ff.; A. BALDASSARRE, *Diritti della persona e valori costituzionali*, Torino, 1997, 96 ff.; G. DE VIRGOTTINI, *Guerra e Costituzione. Nuovi conflitti e sfide alla democrazia*, Bologna, 2004, 265 ff.

tion is the issue of security, which in relation to *ICT* has led, even the Italian doctrine, to talk about cybersecurity[85]. The issue of security, in relation to the full accessibility of data and the continuous dissemination through *ICT*, raises important issues for the legislator.

The theme can be addressed with insights from the so-called Google Glass affair[86].

Development of technology related to the so-called Google Glass (from the name of the company that developed the prototype) allowed users to experience the so-called Augmented Reality (*AR*)[87], that is, receive information to be able to collect and then possibly rework, only through the target of some aspects of everyday life; safety risks are already evident from the device description.

The subject has immediately presented critical aspects,

[85] P.L. MONTESSORO, *Cybersecurity: conoscenza e consapevolezza*, quoted, 783 ff.

[86] On the subject of so-called wereable devices, see E. GERMANI, L. FEROLA, *Il wereable computing e gli orizzonti futuri della privacy*, in *Dir. inf.*, 2014, 75 ff., a relevant characteristic is that of connectivity, even though it does not constitute a specific differentiation of wearable devices compared to other devices, it is nevertheless an essential functional element, if not in some cases the main element characterizing the wearable technologies, specifically designed to increase the possibilities of interaction of the user with the environment, both real and virtual. The risks related to the violation of privacy are numerous and evident, and it is necessary to generate in the users the awareness that such devices can collect, process and store a large amount of data (so-called big data) making them easily shared within social networks or through other channels (as in the case of interaction with devices owned by other people) and clearly highlight that, once disseminated on the web, such data, in fact, no longer belong to the users (at least not exclusively), with the risk of unpredictable prejudicial consequences on its identity and reputation. Moreover, wearable devices are potentially able to process big data to identify the individual's behavioural characteristics.

[87] For a legal analysis of the subject, see S. PEPPET, *Freedom of contract in an augmented reality: the case of consumer contracts*, in 59 *UCLA L. Rev.* (2012), 676 ff., who notes that "some successes and advancements in augmented reality systems have recently occurred, yet none have been in widespread use and many are still not commercially available".

not only in terms of protection of privacy[88] but also in terms of security, as an indispensable value to which a system must tend.

The topic, linked to a series of reports and acts of study by European Commission[89], reveals the inadequacy of the static legislative data to regulate certain cases that must be regulated by legislative instruments that can easily be amended.

[88] On the specific issue of the declination of the notion of privacy regarding the Google Glass affair, see M.S. WARNER, *Google glass: a preemptive look at privacy concerns*, in 10 *Wagner L. Rev.* (2013), 475 ff., "The default state of the world changes from one in which the structural privacy interest was adequately protected to a world in which the privacy interest in no longer protected. Assuming there is no parallel constraint mechanism – law, norms, or markets – to continue to safeguard the privacy right, this phenomenon can be seen as the loss of a previously held right".

[89] EUROPEAN PARLIAMENT, Directorate-General for internal policies, *Big Data and Smart Devices and Their Impact on Privacy*, avaiable on *www.europarl.europa.eu* (2015), 13, "the production of data by smart devices can occur in quite varied ways. Smart devices often include sensors designed for data capture. These generate continuous streams of data such as temperature, waves, movements or other variables. Further data might also be created through information processing. In any case, smart devices generate data that inevitably includes indexical data, that is, data allowing for the identification of the produced data sets and for the linking of data sets with other data sets. The pervasiveness of sensors and extensive routine data production might not be fully understood by individuals, who may be unaware of the presence of sensors (which are often low-cost and miniscule) and of the full spectrum of data they produce, as well as the data processing operations treating this diverse data. Smart devices are sometimes labelled everyware, alluding to the fact they embody the colonisation of everyday life by information technology. Wearable devices, that is, accessories or clothing incorporating advanced electronic technologies, are special types of smart devices. Although their origins could be found in the 1980s calculator watch, wearables today most often integrate connectivity features. Modern smartwatches, for instance, typically run mobile applications and might also function as mobile phones. The paradigmatic example of a smart wearable device is the Google Glass prototype (marketed from April 2013 to January 2015), an optical headmounted display developed by Google that allows wearers to communicate with Internet through voice commands".

It is necessary to make some reflections on a case, related to US law which has also been brought to the attention of the EU institutions, in which there has been a failure of regulation in the face of the rapid advance of technologies and the relative danger of aspects that go beyond the mere right to privacy.

This topic allows some reflections to be made on the delicate relationship and balance between legislation and technology development, in which the equilibrium must be flexible and mobile, so as not to lead to cases of failure of regulation, as in this hypothesis. If technological development is not regulated and the legislator is not fully aware of this, the issue of the evolution and normal change of administration cannot develop in any useful direction, neither for citizens nor for the administrations.

The issue raises several critical issues regarding the protection of privacy but there are still no draft laws in Italy or analysis conducted at the legislative level by the study offices of the Parliament and for this reason we must rely on the guidance provided at EU level, however, non-binding but in the form of reports.

This part of the analysis does not analyse the issue from the point of view of US legislation, but refers to the suggestions provided by the Report of the European Data Protection Supervisor (*EDPS*), released in January 2019[90].

The failure, or at least the current inadequacy of law (national or EU) to regulate this technological tool, the use of which can make decisive improvements in the relationship between administration and citizens is mentioned in a passage of the report, which stresses that "at the current stage of the development, an urgent need for technology specific legislative initiatives does not appear to be justified".

As noted, the use and trade of such glasses is not allowed on

[90] The full text of the report is available at *www.edps.europa.eu/sites* (2019); on this subject, for some aspects related to EU and US legislation, see F.F. WANG, *Law of eletonic commercial transaction*, New York, 2017, 67 ff.

EU territory and the report highlights two orders of reasons, on the one hand the limitation of privacy (and human rights related to it) and on the other hand security risks.

All considerations made in this report are obviously not binding in nature but can draw up guidelines for the regulation of such complex phenomena from the point of view of the rights involved.

The risk in terms of privacy goes in two opposite directions, both from the point of view of the user of the glasses and then of the subjects who interact, in a passive sense, with the device[91].

In general, there are a number of unresolved issues regarding the protection of privacy for these devices, among which the lack of data control by users and especially by non-users, intrusive analysis of behaviour and profiling and lack of anonymity due to the high identifiability of the information being processed are particularly important.

In terms of privacy, the only advice, however very general provided by the report, is that "legislators must consider necessity and proportionality when they discuss legislative initiatives aiming at the use of connected devices for law enforcement and security purposes", however, since in the current state of legislation (both EU and Italian) it is not clear how smart glasses manufacturers will balance the implementation of confidentiality, integrity and availability measures at all levels of processing with the need to optimize the use of computational resources and energy by objects and sensors.

[91] EUROPEAN DATA PROTECTION SUPERVISOR, *Technology report No. 1*, (2019), 7, "With a large variety of interconnected IoT devices, personal data such as activity and health profiles can be collected in an increasing number of situations of everyday life. Sensors of IoT devices allow to collect information that goes beyond direct user inputs and encompasses information on the device environment from which personal data may be interfered indirectly without their knowledge and consent".

Another key aspect, equally unresolved, concerns the security risk, because, by way of example, such a technological tool can also be exploited to threaten the security of their users.

Security is to be understood in its widest possible sense, in terms of security for the citizen or security for the re-use or acquisition of data belonging to public administrations and therefore sensitive from another point of view.

The subject is in progress but it is undeniable that traditional legislative instruments cannot support and regulate aspects that change so suddenly, which is why it would be desirable, at EU level and at Italian level, a more flexible type of discipline, i.e. soft law tools, able to adapt to technological developments to avoid that there are unregulated sectors or prohibit the development of technologies that could bring improvements for cases of failure of regulation.

7. *Protection of individual's personality and datafication of administrative action: underlying hyprocrisy*

The issue of protection of personal data as a whole (in terms of both the protection of privacy and security) in the light of the continuous datafication of the administrative action underpins a basic hypocrisy.

Also on the basis of the current and modern configuration of the GDPR, that provides a series of relevant and advanced protections in terms of privacy protection (and consequently also personal security) such as the issue of the prohibition of profiling or the expansion of the notion of personal data itself[92].

The fundamental misunderstanding resides in a circumstan-

[92] On the subject is interesting the possibility introduced by the tax decree to access, through the invoices, also to irrelevant information from the tax point of view. The Guarantor for the privacy has expressed a negative opinion, because the algorithm would allow access to information not functional to the exercise of administrative power.

ce that cannot be overcome and that resides in the ownership of the data and in the relative interest of protection.

Although the GDPR extends the range of protections, obviously the GDPR is linked to the protection of personal data, that is, of a protection activated by the owner concerned.

The current *ICT*, also used by public administrations, cross a huge amount of data (Big Data analyzed above) from which one obtains infinite additional data that contain the information of the initial data but no longer have a holder of the data.

In other words, continuous reuse of data creates endless other data, containing all the information of original data holders, but no longer being linked only to that information, they do not have a holder and therefore there is no interest in specific protection.

Even the dynamic protection does not seem to provide an adequate level of protection because one should imagine a protective mechanism that pursues the data and its reprocessing infinitely.

This continuous reworking removes data from the holder (i.e. the person who could ask for protection) and keeps within it all the information, which will thus be available, without any protection.

This process of devaluation of the value of privacy seems to be in total contrast with what has been achieved, in terms of the protection of the rights of individuals before the public administration.

Words of authoritative scholars[93], according to whom the administrative authority could interfere in the interest of the protection of the confidentiality of the private sphere only if the law conferred such power and, in any case, within stingy limits, seem to be far away.

[93] F. LEVI, *L'attività conoscitiva*, quoted, 97; in a manner consistent with this, A.M. SANDULLI, *Note sul potere amministrativo di coazione*, in *Riv. trim. dir. pubbl.*, 1964, 819 ff.

CHAPTER III

THE REQUIRED HUMAN COMPONENT IN ADMINISTRATIVE DECISION: FROM THE FOOLPROOF ADMINISTRATION TO THE (PRESUMED) INFALLIBILITY OF ALGORITHMS*

TABLE OF CONTENTS: 1. Incidence of *ICTs* on administrative decisions. Required terminological clarifications. – 2. Administrative decisions and algorithms: elements of public certainty and enhancement of the motivational value. – 2.1 Algorithms between administrations and citizens: new challenges for the rule of law. – 2.1.1 Administrative decision and algorithm: the central difference between serving and substitutive role in exercise of power. – 2.1.2 Algorithm, bound activity and different degrees of administrative discretion. – 2.2 Responsibility and administrative algorithmic decision: the hazard (and paradox) of administrative decisions without responsibility. – 3. Algorithms and administrative organization: positive model and necessary adjustments in school and justice administrations. – 3.1 The algorithm and the reform of schooling system: the retrocession of the *AI* to serving function. – 3.2 Insights from the administration of justice for algorithms: *Calendar* and *G.I.A.D.A.* modules. – 4. Right of access to documents and algorithmic decision. Concluding remarks.

1. *Incidence of ICTs on administrative decisions. Required terminological clarifications*

The authoritative consideration according to which admini-

* The title of the chapter takes its name from the inspirational essay written by F. LEDDA, *Dal principio di legalità al principio d'infallibilità dell'amministrazione*, in *Foro amm.*, 1997, 3003 ff., now in *Scritti giuridici*, Padova, 2002, 449.

strative decisions (which is autonomous and prior to the administrative measure, the decision is to be understood as a choice among alternatives for the solution of administrative problems) should act as a hinge between technology and community[1] perhaps needs to be rethought nowadays, because today *ICTs* are the ones that influence administrative activity that seems to be oriented and orientable by them. This danger had already been widely recorded by extremely enlightened scholars – as early as 1984 – according to which future would tell if the art of administration could be fully guided and almost cooled by technique[2].

The current extent of the phenomenon as a whole concerns the entire administrative system, from drafting of public policies (the so-called guidance activities) to implementation phase, that of administrative decision itself[3].

The duty to use best existing techniques for adoption of administrative decisions (and in this sense include for example *ICT* and Big Data because they improve the cognitive heritage

[1] Please refer to G. GUARINO, *I tecnici e i politici nello Stato contemporaneo. Prolusioni e conferenza*, Milano, 1966, 196 ff., the administrative function is not only an exercise of power but above all the process of forming a decision.

[2] F. LEDDA, *Potere, tecnica e sindacato giudiziario sull'amministrazione pubblica*, in *Dir. proc. amm.*, 1984, 371 ff., now in *Scritti giuridici*, Padova, 2002, 190; L. GIANI, *Il problema amministrativo tra incertezza della tecnica*, quoted, 135 ff.; C. MARZUOLI, *Potere amministrativo e valutazioni tecniche*, Milano, 1985, 205 ff.; M. GIGANTE, *Effetti giuridici nel rapporto tra tecnica e diritto: il caso delle 'norme armonizzate'*, in *Riv. it. Dir. pubbl. com.*, 1997, 313 ff.; in general terms, on the relationship between law and technique, N. IRTI, *Il diritto nell'età della tecnica*, Napoli, 2007.

[3] W. GIULIETTI, *Tecnica e politica nelle decisioni amministrative 'composte'*, in *Dir. amm.*, 2017, 327 ff.; R. DIPACE, *L'attività di programmazione come presupposto delle decisioni amministrative*, in *Dir. soc.*, 2017, 647 ff.; M. CONTICELLI, *I micro-problemi dei procedimenti, ovvero della difficoltà di decidere*, in L. TORCHIA (*ed*), *I nodi della pubblica amministrazione*, Napoli, 2016, 209 ff.

of the PA) is a corollary of the article no. 97 of the Constitution[4] (good performance[5]) and has an impact on the legitimacy of the measure adopted.

Use of *ICT*, as seen in the previous chapter, brings undeniable benefits to cognitive heritage of the public subject, and therefore to the enquiry stage, but it is appropriate to assess the impact of these tools at the time of the decision. The use of technology (and of data in particular) can contribute to improving cognitive apparatus of public administrations, both in relation to a single investigation and for an overall improvement of the knowledge base.

Neverthless, use of technologies (and of *AI* and of the algorithm in particular) in the moment of adoption of administrative decisions place an additional element between the deciding subject (i.e. the administration) and citizens, the *ICT* instrument

[4] On the relationship between the use of technique and article no. 97 of the Constitution, see the authoritative position expressed by V. BACHELET, *L'attività tecnica della pubblica amministrazione*, Milano, 1967.

[5] G. PASTORI, *La burocrazia*, Padova, 1967, 91 ff., good performance and impartiality must be read in the light of the rule of law, as if they were a single value; U. ALLEGRETTI, *Imparzialità e buon andamento della pubblica amministrazione*, in *Dig. Disc. Pubbl.*, VIII, Torino, 1993, 133 ff.; D. DE PRETIS, *Valutazione amministrativa e discrezionalità tecnica*, Padova, 1995, 336, the constitutional principles of good performance and impartiality have legitimising force both in terms of organization and activities; L. TORCHIA, *L'attività amministrativa nella (vecchia e nella nuova) Costituzione*, in *Riv. trim. dir. proc. civ.*, 1995; M.P. CHITI, *Introduzione*, in M.P. CHITI, G. PALMA (*eds*), *I principi generali dell'azione amministrativa. Atti del Convegno di Napoli 3 febbraio 2006*, Napoli, 2006, 8 ff.; M.R. SPASIANO, *Buon andamento: dalla legalità del formalismo alla legalità del risultato*, in G. DE GIORGI CEZZI, P.L. PORTALURI, F.F. TUCCARI, F. VETRÒ (*eds*), *Il meritevole di tutela: scenari istituzionali e nuove vie di diritto*, Napoli, 2012, 369 ff.; A. MORRONE, *Verso un'amministrazione democratica. Sui principi di buon andamento e pareggio di bilancio*, in *Dir. amm.*, 2019, 381 ff.; in the reversed perspective, but in a compliant sense, see C. FELIZIANI, *Quanto costa non decidere? A proposito delle conseguenze delle mancate o tardive decisioni della Pubblica Amministrazione*, in *Dir. econ.*, 2019, 155 ff., to which reference should also be made for the extensive bibliographic apparatus.

precisely, which could either have a decisive impact on the decision itself or decide in place of the administration.

This aspect must be analyzed, first of all, with regard to compliance with rule of law, that is, in terms of conferring power on the *ICT*, which in fact has an impact on the subjective situation of the private individual (either as an aid or as a direct agent).

The topic is not entirely new, but it must be subject to continuous investigation and attention because the continuous evolution of technologies requires careful reflection on the part of the jurists[6].

There are many issues to be investigated, including the impact of *ICT* and Artificial Intelligence (*AI*) issue on robotic decisions, and the renewed responsibility of public administration in relation to these new technologies.

Themes must be analyzed autonomously for the different categories of law that are critically rethought from time to time, but a common feature is to be noted, namely the need to make public decision more immediate, faster, more efficient at the expense of other values. The adoption of an administrative decision is no longer only an expression of public will, but also a cognitive activity to reach an end with the best use of available resources. Principle of speed and efficiency of action operate as complementary canons to the principle of legitimacy[7].

The risk of an administrative decision totally left to *ICT* and

[6] Consider, for example, the study written by F. PINTO, *La forma dell'atto amministrativo al tempo di Internet: spunti a margine di uno 'strano' apparentamento*, in *www.giustamm.it*, 2019; A. MASUCCI, *Procedimento amministrativo e nuove tecnologie. Il procedimento amministrativo elettronico ad istanza di parte,* Torino, 2011, 14 ff.; S. PUDDU, *Contributo a uno studio*, quoted, 115 ff.; A.G. OROFINO, *Forme elettroniche e procedimenti amministrativi*, Bari, 2008, 73 ff., 141 ff.; G. CARIDI, *Informatica giuridica e procedimenti amministrativi*, Milano, 1983.

[7] Among the many bibliographical references, please refer to R. LASCHENA, *Discorso d'insediamento del presidente del Consiglio di Stato*, in *Foro amm.*, 1996, 3515.

algorithms that looms in the future, risks undermining the same notion of administrative decision, understood as a moment of dialogue between administrations and the citizens[8]. Administrative decision is the most critical moment of administrative activity, it is the real moment of composition of interests involved.

The unanimous reference that the doctrine operates to the circumstance of balancing interests to be made at the time of the choice, in the hypothesis of decision entirely left to the *ICT*, is disregarded.

Issues to be critically addressed include the issue of administrative decision and implications of use of algorithms, the observance of the rule of law (and the necessary rediscovery of the central role of motivation) and responsibility of administrators in the light of use of new technologies. The public decisions adopted on the basis of algorithms, exploiting Big Data, with the help of the *AI* can concern the most varied areas (finance, environment, health, public order), but here the aim is to conduct a speech of general scope, with some references to try, even in an inductive way, to draw conclusions consistent with principles of legal system.

Before moving on to analysis of the impact of new technologies on administrative decisions, some terminological clarifica-

[8] *Ex multis*, M. NIGRO, *Decisioni amministrative* (encylclopedic voice), in *Enc. dir.*, XI, Milano, 1962, 812 ff., the decision is an administrative inquiry, formed in an adversarial process between the administration and the citizen; M. NIGRO, *Le decisioni amministrative*, Napoli, 1953, 3 ff.; F. MERUSI, G. TOSCANO, *Decisioni amministrative* (encylclopedic voice), in *Enc. giur.*, X, Roma, 1988, 3 ff., administrative decision summarises the assessment and public the will that composes a conflict of interest, selecting between different possible alternatives for solution of an administrative problem; A. TRAVI, *Decisione amministrativa* (encyclopedic voice), in *Dig. Disc. Pubbl.*, IV, Torino, 1989, 524 ff.; M.S. GIANNINI, *Decisioni e deliberazioni amministrative*, in *Foro it.*, 1946, 159 ff.; for a different interpretation of the theme, see E. CANNADA BARTOLI, *Decisione amministrativa* (encyclopedic vocie), in *Nov. Dig. It.*, V, Torino, 1964, 268 ff., administrative decision summarises the composition of various interests to be fixed in an administrative choice.

tions are necessary, in relation to notions of *AI* and algorithm, since Italian legislation has provided neither a definition nor an organic framework for these concepts.

However, this legislative inertia[9], which can be interpreted as a gap, can actually be interpreted as a possibility of orienting such instruments in accordance with the principles of administrative law, consistent with the main line of investigation, according to which paths of administrative decisions trace the path of changes in the administration, because in the use that is made of these tools in decision-making phase, definition in terms of functionality for the administrative activity is valued.

The notion of Artificial Intelligence (*AI*) (also linked to the nearby notion of artificial agent), until a few years ago could seem an oxymoron[10] and contains a series of tools (algorithms, machine learning, robotics) that allow a technological artifact to act independently without the intervention of its creator, with different levels of autonomy and independence[11].

In the category of *AI* a central role is played by the algorithm, which for what will be said shortly, can be defined as any set of mathematical instructions to manipulate data directed to

[9] As noted by D.U. GALETTA, J.G. CORVALÁN, *Intelligenza Artificiale per una Pubblica Amministrazione 4.0?*, quoted, 6, this inaction has made it necessary to take additional action by the administrative courts (specifically Sec. III-bis of the T.A.R. Lazio, Rome).

[10] See the full examination in terms of evolution of the subject by G.F. ITALIANO, *Le sfide interdisciplinari dell'intelligenza artificiale*, in *An. Giur. econ.*, 2019, 9 ff.

[11] D.U. GALETTA, J.G. CORVALÁN, *Intelligenza Artificiale per una Pubblica Amministrazione 4.0?*, quoted, 7, there are very basic AI systems, based on automation and systems that can self-learn, without human supervision; M. D'ANGELOSANTE, *La consistenza del modello dell'amministrazione 'invisibile' nell'età della tecnificazione: dalla formazione delle decisioni alla responsabilità per le decisioni*, in S. CIVITARESE MATTEUCCI, L. TORCHIA (*eds*), *La tecnificazione* (Vol. IV), in L. FERRARA, D. SORACE (*eds*), *A 150 anni dall'unificazione amministrativa italiana. Studi*, Firenze, 2016, 165 ff.

the resolution of a problem[12]. The algorithm is responsible, among other things, for the collection and arrangement of Big Data, and in this context can allow the public administration to use this data asset to adopt administrative decisions.

Algorithmic procedure must be general, finite, complete and unambiguous; these aspects are decisive if applied to administrative decisions, also to understand in which direction the algorithm can direct administrative action, preferring which range of interests.

From this point of view, the algorithm would bring – in relation to the neutrality mentioned above – undoubted advantages to the issue of the certainty of administrative action (both in terms of result and time of the procedure[13]); nevertheless, it is

[12] S. SASSI, *Gli algoritmi nelle decisioni pubbliche tra trasparenza e responsabilità*, In *An. Giur. econ.*, 2019, 109 ff., the algorithm plays such a central role in everyday life that it redraws the current social, economic, political and legal context. According to this analysis, the algorithm reliably provides the expected result within a certain period of time; R. BENÍTEZ, G. ESCUDERO, S. KANAAN, D. MASIP RODÓ, *Inteligencia artificial avanzada*, Barcelona, 2013, 18 ff., the algorithm is a set of instructions, rules, a methodical series of steps that can be used to make calculations and make decisions; G. AVANZINI, *Decisioni amministrative e algoritmi informatici. Predeterminazione, analisi predittiva e nuove forme di intelligibilità*, Napoli, 2018, 5 ff., an algorithm is a sequence of operations that allows a problem to be solved if each step corresponds to only one subsequent step and if the result is useful and real; T.H. CORMEN, C. LEISERSON, R.L. RIVEST, C. STEIN, *Introduzione agli algoritmi e strutture dati*, Milano, 2010, 22 ff.; P. ZELLINI, *La dittatura del calcolo*, Milano, 2018, 15 ff.; M. MEZZA, *Algoritmi di libertà. La potenza del calcolo tra dominio e conflitto*, Roma, 2018, 34 ff.; critically on the subject, P. SCHWARTZ, *Data processing and government: the failure of the American legal response to the computer*, in 43 *Hastings L. J.* (1992), 1321, noted that algorithms can lead to non-objective choices, which are only cloaked by a veil of neutrality.; G. RESTA, *Governare l'innovazione tecnologica: decisioni algoritmiche, diritti digitali e principio di uguaglianza*, in *Pol. dir.*, 2019, 199 ff.

[13] F. MERUSI, *La legalità amministrativa fra passato e futuro. Vicende italiane*, Napoli, 2016; A. ROMEO, *Dalla forma al risultato: profili dogmatici ed evolutivi della decisione amministrativa*, in *Dir amm.*, 2018, 551 ff.; F. MANGANARO, *Principio di legalità e semplificazione*, quoted, 111 ff.

appropriate to make two remarks, which will be discussed in greater detail during this chapter.

The first is that the algorithm does not work in a predictive way, but in a probabilistic way[14] and this consideration makes the outcome of the procedure at least more uncertain. The second is that there are some algorithms (the so-called machine learning) whose functioning has been compared to the analysis of a closed, dark box and this aspect must be analyzed according to interests that administrations are called to mediate.

2. *Administrative decisions and algorithms: elements of public certainty and enhancement of the motivational value*

The issues related to the evolution of the adoption of administrative decisions are the litmus test of how the exercise of the authoritative and unilateral power of administration changes and see, conversely, how the position of the citizen changes in relation to that.

As mentioned above, it is necessary to proceed on the basis of general principles of administrative law and of indications provided by administrative courts, since the subject is not ex-

[14] S. SASSI, *Gli algoritmi nelle decisioni pubbliche*, quoted, 111 ff.; in a partially different direction, reference should be made to the analysis by G. AVANZINI, *Decisioni amministrative e algoritmi*, quoted, 10 ff.; E. CARLONI, *Algoritmi su carta. Politiche di digitalizzazione e trasformazione digitale delle amministrazioni*, in *Dir. pubbl.*, 2019, 363 ff.; M. OSWALD, *Algorithm-assisted decision-making in the public sector: framing the issues using administrative law rules governing discretionary power*, in 376 *Philosophical transactions of the Royal society a mathematical, physical and engineering sciences* (2018), "a public body whose staff come to rely unthinkingly upon an algorithmic result in the exercise of discretionary power could be illegally fettering its discretion to an internal home-grown algorithm, or be regarded as delegating decision-making illegally to an externally developed or externally run algorithm, or having pre-determined its decision by surrendering its judgement".

pressly regulated[15], nor the law does not expressly confer any power on such devices to legitimize their use in the adoption of administrative decisions.

The potential for the use of algorithms to facilitate administrative work entails considerable potential and risks, which should be reported on in general terms, before moving on to individual issues.

Hypothetical advantages are obvious, since the deadline for the conclusion of procedures would be respected[16] (can support

[15] On the subject of the need to regulate the algorithm and AI, see A. NUZZO, *Algoritmi e regole*, in *An. Giur. econ*., 2019, 39 ff.; A. CELOTTO, *Come regolare gli algoritmi, Il difficile bilanciamento fra scienza, etica e diritto*, in *An. Giur. econ.*, 2019, 47 ff., according to which, there is a need to regulate algorithms in order to make procedures objective, transparent and non-discriminatory; F. MOROLLO, *Documento elettronico fra e-government e artificial intelligence (AI)*, in *www.federalismi.it*, 2015, 17 ff.

[16] On the subject, one of the first studies was carried out by G. DUNI, *Il procedimento amministrativo tra l. 7 agosto 1990, n. 241 ed introduzione dell'amministrazione telematica*, in *Foro amm.*, 1995, 226 ff., in which it was noted that the telematics would speed up every step of the administrative practice between the various authorities that must express themselves for the adoption of the final measure; in computer terms we speak of real time, that is, contextuality between end of manifestation of public will of the issuing authority and availability of the problem for receiving one; A. POLICE, *Doverosità dell'azione amministrativa, tempo e garanzie*, in V. CERULLI IRELLI (*ed*), *Il procedimento amministrativo*, Napoli, 2007, 135 ff.; G.M. ESPOSITO, *Al confine tra algoritmo e discrezionalità. Il pilota automatico tra procedimento e processo*, in *Diritto e processo amministrativo*, 2019, 39 ff.; on the subject, in the classical sense of the need to conclude the proceedings, M. CLARICH, *Termine del procedimento e potere amministrativo*, Torino, 1995, 12 ff.; G.D. COMPORTI, *Tempus regit actionem. Contributo allo studio del diritto intertemporale dei procedimenti amministrativi*, Torino, 2001, 44 ff. M. LIPARI, *I tempi del procedimento amministrativo, in Tempo, spazio e certezza dell'azione amministrativa. Atti del XLVII Convegno di studi di scienza dell'amministrazione*, Milano, 2003, 92; A. COLAVECCHIO, *L'obbligo di provvedere tempestivamente*, Torino, 2013; G. CORSO, *Administrative procedures: twenty years on*, in *Ital. J. Pub. L.*, 2010, 273, "Law no. 241/90 and subsequent laws which have modified it have served to fill this substantial lacuna to provide safeguards in three ways: stating that the proceedings must come to a conclusion within a

the search for what has been defined as certainty of administrative action over time[17]), with potential advantages in terms of public certainty[18] and, in the event that the operation of the al-

prescribed time limit (established by law, regulation or organisation norm), and that it must conclude with the issue of an express measure (and not with silence) and that a delay by the administration gives the private individual the right to compensation for any unjust damages"; G. MORBIDELLI, *Il tempo del procedimento*, in V. CERULLI IRELLI (*ed*), *La disciplina generale dell'azione amministrativa: saggi ordinati in sistema*, Napoli, 2006, 251 ff.; M. IMMORDINO, *Tempo ed efficienza nella decisione amministrativa*, in A. CONTIERI, F. FRANCARIO, M. IMMORDINO, A. ZITO (*eds*), *L'interesse pubblico tra politica e amministrazione*, II, Napoli, 2010, 57 ff.; A. MASSERA, *I criteri di economicità, efficacia ed efficienza*, in M.A. SANDULLI (*eds*), *Codice dell'azione amministrativa*, Milano, 2017, 39 ff.; A. ANGIULI, *Studi sulla discrezionalità amministrativa nel quando*, Bari, 1988, 81 ff.; L. TORCHIA, *L'amministrazione italiana (ri)entra nello spazio-tempo: le regole sul termine e sul responsabile del procedimento*, in *Reg. gov. Loc.*, 1992, 345 ff.

[17] F. MERUSI, *La certezza dell'azione amministrativa*, quoted, 527 ff., according to which there are two types of certainty as to the time taken for administrative action, one imposed by the legislature and the other to be assessed in the light of the legitimate expectations generated in the citizen. Technologies can have a positive impact on this second aspect; in a manner consistent with this approach, see L.R. PERFETTI, *Diritto a una buona amministrazione, determinazione dell'interesse pubblico ed equità*, in *Riv. it. Dir. pubbl. com.*, 2010, 805.

[18] The theme is is central to the debate about the algorithm, but it is not new and is not only linked to the use of technologies, for a classic analysis please refer to M.S. GIANNINI, *Certezza pubblica* (encyclopedic voice), in *Enc. dir.*, VI, Milano, 1960, public certainties are one of the salient features of the modern world. Increasingly complicated and improved organizations are able to make known, in a short period of time, to the legal and economic operators, who have an interest in it, sufficiently safe data, sometimes even absolutely safe, that can be used for the adoption of administrative measures, and can also provide those who need to show to others these data, documents, signs, generally suitable tools to provide security; A. BENEDETTI, *Certezza pubblica* (encyclopedic voice), in *www.treccani.it*, 2014, public certainty therefore identifies a public function on the basis of the specific benefits that the public apparatus must offer the community. It is essentially a matter of conveying cognitive usefulness, with a degree of security suitable for generating trust in the relationships between affiliates; A. FIORITTO, *La funzione di cer-*

gorithm were known (i.e. it would be totally transparent, both in terms of input and in terms of functioning of same algorithm), final decision could be predicted in advance, in terms of predetermination of the same[19].

On the issue of the production of public certainty by the administration that uses algorithms in the adoption of its decisions, it is appropriate to make some clarifications.

Public certainty consists of two fundamental moments, namely the assessment and the manifestation (through an administrative act); assessment consists of an investigation in which the administration intervenes in cognitive terms.

The use of *ICT* improves this aspect, as seen in terms of improvement (at least in terms of quantity of public knowledge) on the part of public administrations, which has a potential wealth of data, and therefore sources of knowledge.

In relation to public certainty, it is appropriate to distinguish between productive acts and sources of legal certainty and productive acts of certainties defined as cognitive (*notiziali*)[20].

tezza pubblica, Padova, 2003, 35 ff.; on the issue about the potential for the technique to produce certainty, see V. BACHELET, *L'attività tecnica*, quoted, 112.

[19] On this subject, reference should be made to A. POLICE, *La predeterminazione delle decisioni amministrative: gradualità e trasparenza nell'esercizio del potere discrezionale*, Napoli, 1997, 87, who stated that the concept of administrative decision kept a natural vagueness or indeterminacy; L. TORCHIA, *Teoria e prassi delle decisioni amministrative*, in *Dir. amm.*, 2017, 1 ff., in whose in-depth analysis numerous points emerge that deny ground for the recourse to administrative decisions for algorithms, among which the necessity to identify with certainty the manifestation of public will and to attribute it to a determined subject, also in terms of responsibility; R. BODEI, *Fra prudenza e calcolo sui criteri della decisione razionale, in Ricerche politiche*, Milano, 1983, 59 ff.; in the sense of predictability of decisions in the sense of being linked to judicial precedents, see A. DE SIANO, *Precedente giudiziario e decisioni della P.A.*, Napoli, 2018.

[20] On this distinction, reference should be made to the valuable work by A. ROMANO TASSONE, *Amministrazione pubblica e produzione di certezza: problemi attuali e spunti ricostruttivi*, in *Dir. amm.*, 2005, 867.

Use of algorithms has the advantage of improving this second aspect because public administrations adopt acts that have taken into account in the preliminary phase a greater amount of data and information, which allows the administration to adopt, from the point of view of the production of knowledge for citizens, a more informed decision.

The values of public certainty and predetermination of administrative decisions can be systematized according to use of algorithms within the notion of legal computability[21], which, however, presupposes technical domination and absolute certainty as to the prediction of the functioning of the AI.

Risks represent the other side of the argument, because they concern the opacity of algorithmic procedures, unpredictability, inaccuracy of results. In addition, there are risks related to prejudices, because in the algorithm are translated into codes the inputs that represent the opinions and positions of those who develop the algorithmic model.

In this sense, a specific risk that has already been accounted for by the academic world is most strongly felt in the field of decisions supported by algorithms is that linked to the decline of the motivated administrative decision.

Role of motivation in administrative decisions is being dequoted[22] on the basis of the drive towards efficiency at all costs. The essential element is administrative decision, other parts of administrative activity can be sacrificed to achieve efficiency, in a perspective that tests very tenacity and principles of the gene-

[21] On this subject, see the authoritative position by N. IRTI, *Un diritto incalcolabile*, Torino, 2016; N. IRTI, *Per un dialogo sulla calcolabilità giuridica*, in A. CARLEO (*ed*), *Calcolabilità giuridica*, Bologna, 2017; F. LEVI, *L'attività conoscitiva*, quoted, 19, the rationalization of administrative activity has led to the requirement for specialization and the calculability of the effects of administrative action.

[22] The expression 'dequotation of motivation' is due to M.S. GIANNINI, *Motivazione dell'atto amministrativo* (encyclopedic voice), in *Enc. dir.*, XVII, Milano, 1977, 265 ff.

ral law on administrative proceedings[23]. Principle of good administrative performance (of which algorithmic decision is a tool, a corollary) makes it necessary to sacrifice motivation of administrative decisions.

In this approach aimed at ensuring efficiency instead of any reasoned decision, the subject of the algorithmic administrative

[23] On that aspect, extensively, M. RAMAJOLI, *Il declino della decisione motivata*, in *Dir. proc. amm.*, 2017, 894 ff.; G. TROPEA, *Motivazione del provvedimento e giudizio sul rapporto: derive e approdi*, in *Dir. proc. amm.*, 2017, 1237 ff.; on the tension between guaranteed positions (which enhance motivation) and reductionist positions (which limit the importance), please refer to G. MANNUCCI, *Uno, nessuno, centomila. Le motivazioni del provvedimento amministrativo*, in *Dir. pubbl.*, 2012, 837 ff.; F. PINTO, *La disciplina del procedimento amministrativo a quasi trent'anni dall'approvazione della legge n. 241 del 1990*, in *Amministrativamente*, 2017; M. RAMAJOLI, *Lo statuto del provvedimento amministrativo a vent'anni dall'approvazione della legge 241/90, ovvero del nesso di strumentalità triangolare tra procedimento, atto e processo*, in *Dir. proc. amm.*, 2010, 459 ff.; P.M. VIPIANA, *Il modo di formazione della legge 241/1990 in tema di procedimento amministrativo*, in *Quad. reg.*, 1992, 638 ff.; A. SANDULLI, G. PIPERATA (eds), *La legge sul procedimento amministrativo vent'anni dopo*, Napoli, 2011; G. PASTORI, *The origins of Law No 241/1990 and foreign models*, in *Ital. J. Pub. L.*, 2010, 259 ff.; M. DE DONNO, *Riflessioni sulla 'motivazione in diritto' del provvedimento amministrativo*, in *Riv. trim. dir. pubbl.*, 2013, 629 ff.; F. MERUSI, *Per il ventennale della legge sul procedimento amministrativo*, in *Riv. trim. dir. pubbl.*, 2010, 939 ff.; B. MARCHETTI, *Il principio di motivazione*, in M. RENNA, F. SATTA (*eds*), *Studi sui principi del diritto amministrativo*, Milano, 2012, 521 ff.; F. PATRONI GRIFFI, *Il procedimento amministrativo. Ieri, oggi e domani*, in *www.federalismi.it*, 2014; G. ARENA, C. MARZUOLI, E. ROZO ACUNA (*eds*), *La legge 241/1990: fu vera gloria. Una riflessione critica a dieci anni dall'entrata in vigore*, Napoli, 2010; S. CIVITARESE MATTEUCCI, G. GARDINI (*eds*), *Dal procedimento amministrativo all'azione amministrativa*, Bologna, 2004; on the stability of the structure of the Law after the 2005 amendments and the principles deriving therefrom, A. MASSERA, *I principi generali dell'azione amministrativa tra ordinamento nazionale e ordinamento comunitario*, in *Dir. amm.*, 2005, 707 ff.; G. PASTORI, *Dalla legge n 241 alle proproposte di nuove norme generali sull'attività amministrativa*, in *Amministrare*, 2002, 305, 307; S. CASSESE, *La libertà cresce negli interstizi delle procedure (sulla legge relativa al procedimento amministrativo)*, in *Scritti in onore di Elio Fazzalari*, I, Milano, 1993, 531 ff.

decision is inserted, which requires a renewed appreciation of the motivation for the decision, in two different directions.

The challenge is to understand what role the motivation for an algorithmic decision can play and what it can be.

First of all, it is important to understand whether the choice of using the algorithm should be motivated in itself[24]. If it is interpreted that the algorithm is an organizational choice, which in turn resides in the idea of modelling administrative activity around citizens, this choice as an organizational decision must be motivated[25].

The need to motivate the decision of the administration to use the algorithm arises as a necessary cognitive element for the citizen, also with a view to a possible subsequent judicial protection. In addition, this interpretation also seems to be consistent with what will be said about the responsibility of the decision by algorithm, since the motivation to use the algorithm acts as a factor of accountability of the public administration[26].

Secondly, it notes the need to motivate the algorithmic deci-

[24] Precisely with regard to use of technology, it has been clarified that use of electronic processing by public administrations is a choice that is an alternative to the traditional one, a circumstance that shows, even by administrative jurisprudence, the need to complete a legislative framework to its beginnings (see MINISTERO DELLA FUNZIONE PUBBLICA, *Linee guida di indirizzo amministrativo dello svolgimento delle prove concorsuali e sulla valutazione dei titoli, ispirate alle migliori pratiche a livello nazionale e internazionale in materia di reclutamento del personale, nel rispetto della normativa, anche regolamentare, vigente in materia*, Directive no. 3, 24 April 2018).

[25] At the point it is necessary to record orientation by G. CORSO, *Motivazione dell'atto amministrativo* (encyclopedic voice), in *Enc. dir.*, Milano, agg. V, 2001, 774 ff., the motivation must also be provided for organizational measures because provisions involve an increase in public expenditure and are governed by principle of good performance; in a compliant sense, see D. DE PRETIS, *Valutazione amministrativa*, quoted, 328 ff., the organizational stage represents an element of legitimacy for the public administration itself..

[26] On this aspect, G. CORSO, *Motivazione*, quoted, 780, the choice between different options, to be supported by the motivation of the decision allowing the assumption of functional responsibility.

sion in itself; in this case the motivation must contain the communication, inputs and ways of functioning of the same algorithm. This is not a classic motivation of administrative decision, but rather it is linked to requirment to make transparent modes of action of algorithmic mechanisms.

The motivation (both in case of servant function and in the case of substitution of the algorithm with respect to administrative decisions) must contain all the elements determining choice of public administrations that concern every aspect of the algorithm, including possible margins of error and the relative degree of precision of the *AI*[27]. In this sense, there is a re-evaluation of the motivation of administrative decisions, that no longer contain only the logical procedural process followed by administration, but mechanism of functioning of supports that influence (sometimes in a decisive way) administrative decision.

In conclusion, algorithmic decisions impose a new enhancement of the function of the motivation, in a different direction from the classical conformation of this legal institution, but always with a view to the knowledgeability and transparency of the administrative action for the citizen[28].

[27] F. MERUSI, *Ragionevolezza e discrezionalità*, quoted, 19, in relation to game theory applied to administrative choices – and the discourse seems more valid in terms of algorithm – it is necessary to understand (and Author's opinion is negative) whether the exercise of power can be reduced to a mathematical formula.

[28] F. TRIMARCHI BANFI, *Ragionevolezza e razionalità delle decisioni amministrative*, in *Dir. proc. amm.*, 2019, 313 ff., a distinction should be made in this respect between predictability in terms of knowledge and hence of reasonableness which an administrative decision may have for the citizen and for administrative judge (in view of the fact that administrative decisions have three objectives, citizens, community and the administrative judge). Knowledge of the input entered in the algorithm and the way it works are in themselves a parameter of the choice of administration, to be made known through the motivation. In relation to the principle of reasonableness, a distinction is made between objective profiles, i.e. logical correctness of decision, and evaluation profiles that relate to a value judgment. In relation to the decision supported by an AI, the logical correctness can only be analysed on

The need for motivation for algorithmic decisions operates in double sense of choice of organization and knowledge of presuppositions of the functioning of instrument that influences final decisions, towards the subject that suffers the same decision. In this sense, the motivation, after the decline due to the need to make administrative action more efficient, in terms of decisions through *AI* comes back to have the role of giving the decision itself democratic legitimacy in the eyes of the community in terms of legitimate expectations of the private individual.

In this sense, the motivation must take on a new guise (for example, the distinction between the rules of the decision and the rules for the decision is no longer relevant[29]), aimed at legitimizing[30] both the organizational choice to use the algorithm

the basis of the inputs, i.e. the moment of the assessment is shifted to the input phase; F. LEDDA, *Determinazione discrezionale*, quoted, 373 ff., reasonableness of administrative decision cannot be verified because it is not possible to reproduce the reality treated and dealt with in decision-making processes in order to reconstitute the original administrative problem. This aspect is slightly shaded in hypothesis of decisions remitted to the AI, because at least in the part entrusted to the machine, the functioning can be reproduced, but the administrative problem and the necessary human component of the final choice cannot be simulated; F. MERUSI, *Ragionevolezza e discrezionalità*, quoted, 29 ff; It is not possible to reduce reasonableness to unity because it is a more or less opaque logic that informs exercise of discretionary power.

[29] On this distinction, see R. VILLATA, G. SALA, *Procedimento amministrativo*, in *Dig. Disc. Pubbl.*, XI, Torino, 1996, 579

[30] It is mandatory to refer to the legitimate function of the motivation expressed by A. ROMANO TASSONE, *Motivazione dei provvedimenti e sindacato di legittimità*, Milano, 1987, 61 ff., 384 ff., according to which the motivation is addressed to the person concerned by the measure, to the community and to the administrative judge in order to enable the judicial syndicate to take place. Such a structure seems to be fully consistent with duplication of reasons for the algorithmic decision (organisational choice, concrete decision) aimed at making the administrative action as a whole known, from the organizational choice to the concrete care of the interest. The legitimizing function of motivation plays a central role in the light of the use of such technologies, which, although their functioning is known, always remain obscure tools

for the care of a public interest, both the final decision, keeping available for the citizens the inputs entered in the algorithm and the modalities of operation and re-elaboration of the data of the same.

The different relevant questions underlying the broad relationship between the algorithm and administrative law must be analysed independently.

First of all, it is necessary to assess appropriateness of rule of law in terms of power conferred, which is an unavoidable and preliminary precondition for implementation of these instruments in field of administrative decisions, because if this aspect were not complied with, there would be no need to ask other questions, since it would be illegitimate to use *ICT* itself in the decision-making phase.

The second aspect – closely linked to compliance with the rule of law – concerns the possibility of using the algorithm in relation to the bound and discretionary activity of the administration, with a necessary distinction to be made in terms of the role of the algorithm in the economy of administrative decisions (ancillary or substitutive role of public administration).

The third question concerns the relationship between responsibility and administrative decision taken through an algorithm, in order to encourage the use of *ICTs* and avoid the paradox of administrative decisions without liability.

2.1 *Algorithms between administration and citizens: new challenges for the rule of law*

The conferment of administrative power represents the es-

for the perception of the citizen and his legitimate expectations; G. CORSO, *Motivazione degli atti amministrativi e legittimazione del potere negli scritti di Antonio Romano Tassone*, in *Dir. amm.*, 2014, 463 ff.; G. BERTI, *Diritto e Stato*, quoted, 255 ff.; L. FERRARA, *Individuo e potere. In un giuoco di specchi*, in *Dir. pubbl.*, 2016, 3 ff.; M. MAZZAMUTO, *Amministrazione e privato*, in *Dir. soc.*, 2004, 51 ff.

sence of the principle of legality and its corollaries and the presence of a mechanism such as the algorithm, which influences the final measure with different degrees, risks breaking the path of legality[31] that must lead to administrative decisions; in these terms, algorithms can then be seen as an opportunity for administrations (and citizens) or a misadventure[32] for legality. The connection between the algorithmic decision and the normative source is missing, but it can be recovered through an enhancement of functional profile of the administrative activity, the so-called teleological legality, pursuit of public interest[33].

[31] The metaphor of the interrupted path of legality is due to F. MERUSI, *Sentieri interrotti della legalità. La decostruzione del diritto amministrativo*, Bologna, 2007; in relation to the subject under investigation, as noted by S. CIVITARESE MATTEUCCI, *Umano troppo umano. Decisioni amministrative* automatizzate *e principio di legalità*, in *Dir. pubbl.*, 2019, 19 ff.; F. COSTANTINI, G. FRANCO, *Decisione automatizzata, dati personali e pubblica amministrazione in Europa: verso un 'Social credit system'?*, in *Ist. fed.*, 2019, 715 ff.; on the possibility of adopting a robotic judicial decision, see F. PATRONI GRIFFI, *La decisione robotica e il giudice amministrativo*, in *www.giustizia-amministrativa.it*, 2018, 4 ff.; M. LUCIANI, *La decisione giudiziale*, quoted, 872 ff.

[32] F. MERUSI, *Nuove avventure e disavventure della legalità amministrativa*, in *Dir. amm.*, 2011, 741 ff.; S. CIVITARESE MATTEUCCI, *Il significato formale dell'ideale del «governo delle leggi» (rule of law)*, in *Dir amm.*, 2011, 29 ff., the rule of law is undermined by various factors, globalization, the eclipse of the separation of powers, the need to have a result administration; R. BALDWIN, *Rules and Government*, Oxford, 1995, 60 ff.; C. PINELLI, *The rule of law in crisis*, in *Dir. pubbl.*, 2019, 280 ff.; on the subject, it is necessary to report the interpretative position by S. COGNETTI, *Profili sostanziali della legalità amministrativa: indeterminatezza della norma e limiti della discrezionalità*, Milano, 1993, 267, the indefiniteness of the conferral of power is balanced by the application of the general principles; in a fundamentally different sense, see V. BACHELET, *Legge, attività amministrativa e programmazione economica*, in *Giur. cost.*, 1961, now in *Scritti giuridici*, III, Milano, 1981, 445 ff., the law confers the power and provides elements for the control of its application

[33] F. LEVI, *Legittimità (dir. amm.)*, quoted, 128, even if the rule is missing, the administrative body must act according to what the collective need requires and take appropriate measures for the purpose, provided that the limit of

The issue of strict compliance with the rule of law has led authoritative scholars to shift the research to the field of legitimacy (the rule of law is the founding nucleus of the issue of legitimacy, but it does not exhaust its scope), which goes beyond the written legislative data, and considers general principles and unwritten rules. Among the various solutions proposed for the issue in traditional terms, the Author makes a reference to the canon of responsibility of the public authority[34] (an issue that will be discussed in detail *infra* 2.2), which allows it to act even in the absence of clear legislation conferring a certain administrative power; administrative responsibility is seen as an element of closing the legal system, in which, even in the absence of a specific rule to support a given power, the downstream responsibility allows the legal system to regain its coherence.

The increasing complexity of tasks held by public administrations has led to the overcoming of absolute predetermina-

the general law is respected; G. MORBIDELLI, *Il procedimento amministrativo*, in in F.G. SCOCA (*ed*), *L'organizzazione*, in Vv. Aa. (*eds*), *Diritto amministrativo*, II, Bologna, 1993, 1116 ff., the variability and etheorogeneity of interests make it impossible to predetermine even the primary interest, since all is left to the decision-making phase; M. TRIMARCHI, *Appunti sulla legittimità in diritto amministrativo: origine, evoluzione e prospettive del concetto*, in *Dir. proc. amm*., 2017, 1300 ff., the compliance of the measure with the regulatory paradigm (strict compliance of the act with the norm), which entails the legitimacy of the administration has passed through a dimension in which legitimacy is substantiated in the pursuit of interests worthy of legal protection; G. BERTI, *Dalla legalità formale alla legalità sostanziale*, in *Dir. reg*., 1992, 623 ff.; M. RAMAJOLI, *Diritto amministrativo e post-modernità*, in R.E. KOSTORIS (*ed*), *Percorsi giuridici della post-modernità*, Bologna, 2017, in administrative law, the public interest perspective and the rule of law approach, which requires that the legal positions of citizens be guaranteed, cannot be eliminated;

[34] F. LEVI, *Legittimità (dir. amm.)*, quoted, 131, in this sense, analysis must move from the content of the decision to the activity and function carried out; on the relationship between legitimacy and responsibility, please refer to G. DELLA CANANEA, *Legitimacy and accountability in European administrative law: a critical analysis*, in M. RUFFERT (*ed*), *Legitimacy in European administrative law: reform and reconstruction*, Groeningen, 2011, 66 ff.

tion of administrative action and transition from a principle of executive legality to a teleological one, i.e. an administrative decision based on the public interest, not entirely predetermined. The rule of law becomes mediating point between the recognised existence of an administrative power and the need to guarantee the rights of citizens.

The legitimacy of the decision itself seems to be guided by the public interest, as are the powers conferred on the administration, whose boundaries are no longer fixed by law but are subject to change according to the determination of the public interest[35]. In this sense, not only does the issue of legitimacy lead to the legality of administrative action[36], but no longer to formal legality, determined in a precise sense by law, but to legality linked to the public interest; this reference to the public interest proposes the idea of administrative decision itself being legitimized by public interest.

There is a transition from the strict compliance of the decision to the legal norm, to the necessary compliance of the decision to the pursuit of the public interest[37]. According to this

[35] A. CIOFFI, *Il problema della legittimità nell'ordinamento amministrativo*, Milano, 2012, 51 ff.

[36] In these terms, G. CORSO, *Il principio di legalità*, in M.A. SANDULLI (*ed*), *Principi e regole dell'azione amministrativa*, Milano, 2015, 31 ff.; F. MERUSI, *Il principio di legalità nel diritto amministrativo che cambia*, in *Dir. pubbl.*, 2007, 427 ff.; R. GUASTINI, *Principio di legalità* (encyclopedic voice), in *Dig. Disc. Pubbl.*, IX, Torino, 1994; F. DE LEONARDIS, *I principi generali dell'azione amministrativa*, in A. ROMANO (*ed*), *L'azione amministrativa*, Torino, 2016, 11 ff.

[37] The subject is addressed in an endless and authoritative way by the Italian administrative doctrine, here are only some of the contributions on such a central aspect, limited to the analysis of transition from a punctually predetermined administrative action to the administration pursuing the public interest, A. ROMANO TASSONE, *A proposito del potere, pubblico e privato, e della sua legittimazione*, in *Dir. amm.*, 2013, 559 ff., which distinguishes between subjective and objective legitimacy. The subjective legitimacy options offer the best performances for the stability and effectiveness of the conferred power, because they guarantee a more immediate recognition of the single deci-

trend, administrative decisions purposes must be in accordance with the public interest, which thus determines the formal validity and legitimacy of the measure.

The decision passes from a conformity with the predetermined datum strict law, to the need to be determined only by public interest, which in itself is a broad notion.

There is a nucleus of decision-making, a component of administrative decision-making that is not regulated in all its aspects[38], which, according to one interpretation, can be filled with a reference to the so-called general clauses, which allow the administration to define the public interest and the means to pursue it[39].

sion and based on safer parameters, constituted by correct empowerment of the entity that emanates the decision itself. Formulas of objective legitimacy concern each of the decisions adopted by the holder of a power, because the focus is shifted to the decision and not to the holder; M. BOMBARDELLI, *Decisioni e pubblica amministrazione. La determinazione procedimentale dell'interesse pubblico*, Torino, 1996; M. TRIMARCHI, *Appunti sulla legittimità*, quoted, 1310 ff.; A. CIOFFI, *L'interesse pubblico nell'azione amministrativa*, in *Dir. amm.*, 2015, 797 ff.; on the evolution of the principle and the overlap between legality and legitimacy, B. SORDI, *Il principio di legalità nel diritto amministrativo che cambia. La prospettiva storica*, in *Dir. amm.*, 2008, 1 ff.; M. MAZZAMUTO, *I principi costituzionali del diritto amministrativo come autonoma branca del diritto*, in M.RENNA, F. SATTA (*eds*), *Studi sui principi del diritto amministrativo*, Milano, 2012, 24 ff.; G. CLEMENTE DI SANLUCA, *L'atto amministrativo fonte del diritto*, Napoli, 2003, 27 ff., the rule of law must update its meaning, but not its underlying reasons; for a summary of the two aspects, i.e. the legitimacy of the administrative action on the basis of the legislative element or the public interest, A. CIOFFI, *Due problemi fondamentali della legittimità amministrativa (a proposito di Santi Romano e M.S. Giannini)*, in *Dir. amm.*, 2009, 601 ff., in which the trend is to increase the value of the functional aspect of the activity with respect to the regulatory structure.

[38] S. CIVITARESE MATTEUCCI, *Funzione, potere amministrativo e discrezionalità in un ordinamento liberal-democratico*, in *Dir. pubbl.*, 2009, 750 ff., that wonders about the need to create a real decision-making environment for administrative decisions as well.

[39] S. TUCCILLO, *Contributo alla studio della funzione amministrativa come dovere*, Napoli, 2016; L.R. PERFETTI, *Discrezionalità amministrativa, clausole*

The complexity of the administering and the consequent impossibility for the law to predetermine the administrative activity in its complexity requires an integration of the regulatory precept.

In other words, if the legislative data does not support the decision in the strict sense (as in the case of an algorithmic decision), the administration, in the exercise of its functions, must at least aim for the concrete result to be pursued. The public interest must be developed by the administration[40]; the adoption of administrative decisions is based on investigations extended to elements unrelated to the legislative proposal.

This seems to be the fundamental step, which links, among other things, cognitive activity (and the impact that the data have on the same) and possibility of adopting administrative decisions through an algorithm.

The legal case that bases and legitimizes the exercise of a lawful power is supplemented by general clauses and principles (among which, for the economy of the investigation conducted, the efficiency of the action must be reported); it is opportune to investigate whether the use of algorithms and *ICTs* is legiti-

generali e ordine giuridico della società, in *Dir. amm.*, 2013, 343 ff., the general clause is part of the regulatory structure of the provision conferring power; S. COGNETTI, *Clausole generali nel diritto amministrativo. Principi di ragionevolezza e proporzionalità*, in *Giur. it.*, 2012, 1197; E. FABIANI, *Norme elastiche, concetti giuridici indeterminati, clausole generali, «standards» valutativi e principi generali dell'ordinamento*, in *Foro it.*, 1999, 3558 ff.

[40] N. PAOLANTONIO*, Interesse pubblico specifico*, quoted, 423, the public interest has a multifaceted nature, it cannot be predetermined by law; G. TROPEA, *Una rivoluzionaria sentenza restauratrice (in margine a Corte Cost. n. 115/2011)*, in *Dir. amm.*, 2011, 623 ff. (spec. paragraph no. 3); G. CLEMENTE DI SAN LUCA, *I nuovi confini dell'interesse pubblico nella prospettiva della revisione costituzionale*, in G. CLEMENTE DI SAN LUCA (*ed*), *I nuovi confini dell'interesse pubblico e altri saggi*, Padova, 1999, 97 ff., the law fails to identify public interests that are increasingly complex

mized by such elements external to the principle of legality or whether the lack of conferral of power prevents such use[41].

This renewed conception of administrative action, hetero imposed by external factors such as the increasing complexity of the tasks incumbent on the administration itself, leads to the conclusion that the prospect of the public interest as an indicator of the evaluation of the action implies that the speed of the action is in itself a measure of efficiency and therefore an indicator of good administration. The public interest becomes the purpose constraint (indeed, *vice versa*), i.e. the exercise of power is legitimate even if not provided for precisely by law, since the public interest is 'sufficient reason' (namely *ragione sufficiente*) for administrative decisions[42].

The support of administrative action in various capacities of *AI* (like the algorithm) falls exactly in this trend, in a precarious balance between the legitimacy of public administration to use direct tools to improve the parameters of speed invoked as a corollary of the pursuit of the public interest and the lack of a imputation link, in a more restrictive view of the principle of legality.

This seems to be the core theme, i.e. the alternative of whether or not to use algorithms in adoption of administrative decisionss lies in the interpretation of principle of legality as a

[41] On the subject of the need for a specific power conferred, D. DE PRETIS, *Valutazione amministrativa*, quoted, 378, the conferral of administrative power, especially if it is linked to evaluation purposes, requires a specific rule to this effect, which can be inferred in a certain way from the legal system.

[42] N. PAOLANTONIO, *Interesse pubblico specifico*, quoted, 419, public interest always remains at the heart of administrative determination, but the perspective in which it is appreciated changes. The public interest becomes the subject of an evaluation that is not comparative with other interests but made upstream by the administration itself and not by law; F. LEVI, *L'attività*, quoted, 554, 261 ff., 330 ff., the fact-finding activity must take into account the entire factual situation, in its present state, in order to establish the definition of the concrete public interest that justifies the adoption of an administrative choice.

strict compliance with the rule denying such use, or as a pursuit of the public interest (which would at least allow use in terms of support, but never of subrogation as will be seen)

The algorithm stands between the authority and the citizen, guides (if it does not replace) the traditional administrative decision and exercises a power to all intents and purposes; for these reasons, the issue concerns the need to legitimize this exercise, in view of absence of a rule conferring such an authority (as is the case in Italian legal system).

The issue of finding the legal basis for administrative decisions through use of algorithms summarizes the possibility of improving the performance of administrative activity (at least in general terms, without considering the cases in which the algorithm is out of use and completely prevents the exercise of the action) in compliance with the fundamental values of administrative law[43].

Issue of the holding of the rule of law of administrative decisions taken entirely through an algorithm is clear, since there is no power conferred precisely on the algorithm that stands in the way of the relationship between administration and citizen. If it is up to the administration to outline the public interest and act, balancing other values, to pursue it, it is necessary, also and in terms of protection but not only, to understand the role and weight of the algorithm that arises between the administration and the decision.

The algorithm is not an administrative act, even if, as clari-

[43] On the subject of the automated decision in the prism of the rule of law, see S. CIVITARESE MATTEUCCI, *Umano troppo umano,* quoted, 19 ff.; L. VIOLA, *L'intelligenza artificiale nel procedimento e nel processo amministrativo: lo stato dell'arte*, in *Foro amm.*, 2018, 1598 ff.; S. CRISCI, *Intelligenza artificiale ed etica dell'algoritmo*, in *Foro amm.*, 2018, 1787 ff.; A. USAI, *Le elaborazioni possibili delle informazioni. I limiti alle decisioni amministrative automatiche*, in G. DUNI (*ed*), *Dall'informatica amministrativa alla teleamministrazione*, Roma, 1992, 55 ff.

fied by a recent ruling of the T.A.R.[44], it is similar to it; according to that reading, the right of access is allowed, in accordance with article no. 22 of Law 7 August 1990, no. 241 to administrative acts with electronic processing, in order to guarantee judicial protection. On the basis of this argument, administrative authorities must provide all the instructions relating to operation of the software and the so-called source code, i.e. the procedure that led to the adoption of the measure by means of the algorithm.

Such considerations can provide some cue for the reconstruction of the system but they do not solve the problem of the conferral of the power to adopt decisions through algorithms, because in the event that such a rule (and therefore such conferment) were to be lacking, the imputation link between the rule conferring the power and the subject to whom it is conferred would be interrupted[45].

[44] T.A.R. Lazio, Roma, Sec. III-bis, 21 March 2017, no. 3742, in *Foro amm.*, 2017, 741, the software is an administrative IT act for the purposes of access to documents

[45] An interpretation that has not yet been formulated, either by doctrine or by the administrative courts, is that of including the automated decision in the range of the so-called implied powers of the administration (also defined as ancillary powers to the exercise of public power). The implicit power is the power which, although not expressly conferred by law, runs parallel to a power conferred to guarantee the functioning of the administrative machine; in other words, it is the power which cannot fail to accompany the power conferred, on pain of the uselessness of the conferred one. This reading can be criticized and today must be rejected because it is the administration that freely chooses to use the algorithm, being able to act even without it; the administration is not obliged to use algorithm for performance of its functions. However, in a future perspective, *de iure condendo*, in which public administration can no longer do without recourse to automated decisions, in absence of a power conferred by law on automated decisions, the theme of implicit powers could guarantee the administration itself to pursue public interest, since the character of algorithm of choice would become a necessity and an obligation (the administrative literature on the subject is very extensive, for all please refer to the studies conducted by N. BASSI, *Principio di legalità e poteri amministrativi impliciti*, Milano, 2001, 78 ff., and the extensive peer

In the sense of excluding (with some limitations) the possibility to adopt completely automated decisions is article no. 22 of the General Data Protection Reugulation (GDPR) (EU 2016/679), which provides for the right not to be subject to a decision based exclusively on automated proceedings.

According to this rule, this prohibition is mitigated by the right to obtain human intervention and the right to express an opinion in relation to the automated decision; in addition, the holder of the proceedings must provide to the person involved significant information on the functioning of the mechanism leading to the decision.

This rule, which in any case limits the possibility of resorting to fully automated decisions, is obviously in the perspective of protecting the rights of the citizen and not in the perspective of the power conferred on the deciding subject; in any case, there is a negative orientation towards the possibility of adopting decisions taken through automated mechanisms.

The question of the observance of the principle of legality, in order to draw some conclusions on this proposed approach, it is necessary to break down the analysis into two separate parts.

The first concerns the admissibility of surrogate in its entirety human decisions with an algorithm or of supporting (i.e. assisting) the human decision with the use of *AI*.

The second concerns the possibility to use algorithms in relation to the bound activity only or to extend such use also to the cases in which the use of a discretionary power is necessary.

review by C. MARZUOLI, *Nicola Bassi, 'Principio di legalità e poteri amministrativi impliciti', Giuffrè, 2001*, in *Dir. pubbl.*, 2002, 709 ff.; G. MORBIDELLI, *Il principio di legalità e i c.d. poteri impliciti*, in *Dir. amm.*, 2007, 703 ff.; G. MORBIDELLI, *Ricordando Nicola Bassi nella sua ricerca della legalità in difficile coabitazione con i poteri impliciti*, in *Riv. reg. merc.*, 2017, 263 ff.).

2.1.1 Administrative decision and algorithm: the central difference between serving and substitutive role in exercise of power

The theme of the applicability of the algorithm to the decisions and to the administrative procedure must be subdivided in the hypothesis in which the algorithm carries out servant and ancillary function to the traditional administrative activity and in the hypothesis, more risky, in which there is a total depersonification of the administrative procedure whose investigation and final decision is referred to the *AI*.

The interpretation provided by jurisprudence and scholars – as just pointed out – have as their point of reference the conferral of power and respect for the principle of formal legality.

The use of the *IT* tool in a servant function with respect to administrative activity is considered legitimate; in other words, the use of algorithms (in the event that information on its functioning is accessible pending the investigation) during the administrative procedure, as a support, is considered admissible, indeed is encouraged by the administrative courts themselves[46].

On the contrary, total subrogation of administrative activity with an algorithm at the decisional moment is considered inadmissible; in other words, algorithm cannot autonomously manage the entire investigation or replace the person responsible (the individual in charge of the proceedings) at the decisional moment. In the light of what has been said in terms of the non-provision of authority, in this case the imputation link is interrupted and it is considered that the final decision is annulable under article no. 21octies, Law 7 August 1990, no. 241 for excess of power by proceeding administrations. The attribution of

[46] Cons. St., Sec. VI, 8 April 2019, no. 2270, in *Guida al diritto*, 2019, 16, administrative courts encourage the introduction of new information technologies into administrative procedures, especially those with standardised serial procedures, but at the same time stress that this cannot constitute grounds for circumventing principles governing the conduct of administrative activity.

power to the proceeding administration is present but there is no imputation link between the latter and the algorithm.

The different between two reconstructions is fully compatible with the respect of rule of law, respected in two different hypotheses, in which the difference is between the assumption in which the algorithm helps to adopt a decision and the one in which the algorithm adopts a decision[47]. In this second hypothesis, the imputation link is interrupted, since the law does not confer to algorithm the power to adopt a decision, but confers it to the person responsible for the procedure (natural person) who in this case does not act.

According to a T.A.R. ruling[48], the fully automated decision lacks the anthropomorphic principle, i.e. the mediation of a public official as a natural person; impersonality of the software makes the traditional and guarantor (for the citizen) traditional administrative investigation fail, a circumstance that acts as a barrier (at least at the moment) for automated decisions. In the vision of a principle of legality increasingly calibrated to the public interest, the moment (understood as a human choice) of the composition of the legal positions involved in reaching the decision is indefectible and cannot be delegated to an AI.

For a different view, which may legitimize the use of auto-

[47] S. CIVITARESE MATTEUCCI, *Umano troppo umano*, quoted, 21, the author refers to a principle of ordinary referability to a human intentional act; I.M. DELGADO, *Automazione, intelligenza artificiale e pubblica amministrazione: vecchie categorie concettuali per nuovi problemi?*, in *Ist. fed.*, 2019, 643 ff., arguing that there is a need to reflect on changes in three main areas. The first concerns the traditional concepts of administrative law: administrative measure, organ theory, administrative discretion. The second relates to the classic principles of administrative procedure and organization: objectivity, transparency, efficiency. The third, of central importance, deals with guarantees for citizens: invalidity of administrative decisions, motivation, control authorities; M. PERRY, A. SMITH, *iDecide: the legal implications of automated decision-making*, in 17 *Federal Judicial Scholarship* (2014); F. COSTANTINO, *Autonomia dell'amministrazione e innovazione digitale*, Napoli, 2012, 173 ff.

[48] T.A.R. Lazio, Roma, Sec. III-bis, 10 September 2018, no. 9227.

mated decisions, it can identify a second-degree legitimacy (in terms of legality), because it should allow (by law) administrative authority to which the power has been conferred, to be able to use software to make administrative decisions.

Principle of legality and the conferral of power are inextricably linked to the exercise of human power; *AI* can have a servant, ancillary function but cannot replace human decision. In other words, an anthropomorphic[49] principle must be found in administrative decisions, in order to respect the necessary link between the conferral of power and the imputability of the act.

The possibility of adopting a fully algorithmic decision is at present subject to the fulfilment of a non-existing factual condition or through legal reconstruction.

The first option, currently not elaborated in terms of use for the administrations, is linked to the use of an autonomous *AI* (Sponteanus Artificial Intelligence) which could be an autonomous centre of legal imputation and therefore of power conferred by law directly to the algorithm[50]. In this case, rule of law would be respected, since the power would be conferred directly to the machine, even if questions relating to inputs to be inserted in the algorithm and the question relating to responsibility remain (potentially) unsolved, since an algorithm cannot be legally responsible.

The second option tries to explore, on the basis of the state of the art of technological development, the possibility of recourse to a fully automated administrative decision, without violating the link that must exist between the power conferred and the person who exercises it. A second-degree legality can be assumed[51], in the sense that it applies to a power conferred in the first instance on a human being (the so-called munus, the

[49] In these terms, the subject is addressed in AGENZIA PER L'ITALIA DIGITALE, *Libro Bianco sull'Intelligenza Artificiale al servizio del cittadino*, avaiable on *www.ia.italia.it,* 2018.

[50] E. PICOZZA, *Politica, diritto amministrativo*, quoted, 1763.

[51] S. CIVITARESE MATTEUCCI, *Umano troppo umano*, quoted, 40 ff.

holder of the administrative function) who in turn delegates it to an algorithm.

Hypothesis thus outlined would fully respect the issue of power conferred on the administrative authority, through a shared legal construction, but it would be appropriate to make some arrangements in relation to the protection of the position of the citizen concerned, assuming an automated provisional administrative decision, to be finalized after the discussion with the private party. In this case, however, it would be back to the starting point, where the algorithm performs only a servant function and could never replace the administrative action in its entirety.

The solution seems to be fully consistent with both the current state of technological development (in terms of algorithms certain in terms of predetermination) and the state of the legislation in force also and especially in terms of legitimate expectations generated in citizens.

In any case, in order to report the comparison of an authoritative Author, to legitimize the algorithmic decision would be equivalent to bartering legality for efficiency, a vulgar barter, because all administrative action must be determined by rules established in advance[52].

In these terms, citizens do not have confidence in work of traditional administrations, but perhaps has even less confidence in administration for algorithms[53].

[52] Please refer to F. LEDDA, *Dal principio di legalità al principio d'infallibilità*, quoted (*Scritti giuridici*), 449; L. GIANI, *Il problema amministrativo tra incertezza*, quoted, 135.

[53] A. NUZZO, *Algoritmi*, quoted, 43, the concept of an AI that adopts objective decisions can be attractive but is subject to a series of risks, such as, for example, the use of partial or incorrect data, which make it utopian to achieve a high degree of algorithmic equity; on another issue, the following considerations can be shared L. BREGGIA, *Prevedibilità, predittività e umanità nella soluzione dei conflitti*, in *Riv. trim. dir. proc. civ.*, 2019, 395, mechanical efficiency and effectiveness, based on what has been defined as the dictatorship of digital computing, contrasts with significant effectiveness and effi-

2.1.2 Algorithm, bound activity and different degrees of administrative discretion

The issue of applicability of automated decisions to tied and discretionary activity, which may seem central, seems to be tempered by the administrative courts themselves[54], even if, at the moment, based also on the evolution and on the limited possibility for the algorithm to reproduce human behaviors, it seems admissible to use the algorithm only for the tied decision.

In relation to the fully constrained activity[55], there seems to be no doubt about the possibility of resorting to an algorithm, since the task of the administration would be obliged to acquire only the instructing elements, all of which are objective and immediate feedback, without making any discretionary choice[56]. The algorithm, in hypothesis of constrained activity, transforms data into a decision (i.e. an outgoing datum, the output) which, through analytical legal concepts, will allow to reach the final decision.

Indeed, it is permissible for administrations to be able to issue sanctions, the amount of which is decided by an algorithm. Specifically, the issue, which cannot be addressed here, concerns the possibility of quantifying the penalties for building or

ciency, which always keeps control of the purposes; L. IANNOTTA, *Previsione e realizzazione del risultato nella pubblica amministrazione: dagli interessi ai beni*, in *Dir. amm.*, 1999, 57 ff.

[54] T.A.R. Lazio, Roma, Sec. III bis, 10 September 2018, no. 9227.

[55] On the subject, the references are broad and articulated, it is restricted to referring to F. FOLLIERI, *Decisione amministrativa e atto vincolato*, in *www.federalismi.it*, 2017, to which reference should be made for the extensive bilbiographical apparatus

[56] On this point, see Cons. St., Sec. IV, 17 April 2019, no. 2502; in a sense consistent with this approach, which appears to be peaceful, see P. OTRANTO, *Decisione amministrativa e digitalizzazione della p.a.*, in *www.federalismi.it*, 2018, 15.

landscape offences through an algorithm formula that combines several factors[57].

In such cases, legal basis of the administrative power to adopt algorithms for tied acts derives from the organizational power of each public administration[58]; through an algorithm for tied decisions, the administration would not be exposed to the risk of unequal treatment and delay in carrying out its tasks.

However, some risks should also be noted in such cases of a tied decision.

Moreover, even in relation to the tied activity, there are risks regarding the legitimacy of the act adopted, in the event that the information provided upstream is incorrect or due to programming defects inherent in the same algorithm[59].

The issue is more complex in the event of adoption of an administrative measure of a discretionary nature, on the admissibility of which there are strongly divergent opinions.

For a first and more restrictive interpretation, the discretionary administrative decision is not replaceable by a machine, because the discretionary act is based on human reasonableness and would lose any kind of predictability, so the component is considered indispensable (even if it is possible to use, as a mere support, the *AI*, but in this case it would be a question of increasing cognitive heritage of public administrations, without impacting on decision-making aspect).

For another evaluation, it would be possible to resort to algorithms for exercise of powers characterized by low discretion, that is, in which it is possible to parameterize the action of the

[57] For the analysis of the subject, please refer to B. GRAZIOSI, *Note critiche sui regolamenti comunali concernenti le sanzioni pecuniarie edilizie e paesaggistiche e sulla relativa giurisdizione di merito del giudice amministrativo*, in *Riv. giur. edil.*, 2017, 3 ff. (spec. paragraph no. 5).

[58] In this sense, see A. MASUCCI, *Procedimento amministrativo e nuove tecnologie*, quoted, 88 ff.

[59] P. OTRANTO, *Decisione amministrativa*, quoted, 18.

administration[60]. The position seems difficult to translate into law, especially because of the difficulty of establishing which activities are characterized by low discretion, which is in itself an extremely vague and elusive concept.

However, as appropriately noted, constant technological development could lead to the reproduction of human reasoning, and therefore also applicable to discretionary activity; in such cases, the discretionary power of the administration does not disappear, but moves upstream through the predetermination of the criteria used, which the computer must comply with.

On this issue, there is a shared resistance, in terms of the strength of the legal system.

In these terms, it should be noted that administrative autonomy cannot go so far as to leave the adoption of a discretionary administrative decision to an algorithm. The exercise of discretion, understood as a human factor, allows the assessment and evaluation of assumptions and legal reasons underlying administrative decisions; one could hypothesise to test, through the adoption of regulations by the same administrations, the keeping of discretionary decisions entirely left to an algorithm, allowing a subsequent contradictory discussion of the interested party before final decision or allow such an experiment for procedures that are less complex in terms of enquiry.

But in these hypotheses, either there is a return to the servant function or there is a return to the meta-juridical notion of low discretionality, which leads, at the state of the art, to exclude the use of algorithms for discretionary measures.

An interpretative key that seems to be fully consistent with principles of administrative action (on the assumption that the algorithm has received correct information and there are no malfunctions) is the one that considers the automated procedure as a technical assessment – to be achieved on the basis of scientific, technical canons – to be followed by the final measu-

[60] I.M. DELGADO, *Automazione*, quoted, 657.

re that actually adopts administrative decisions. In any case, in this hypothesis, algorithm returns to having a servant function, ancillary to exercise of administrative function (to date, only for the bound activity), not being able to replace final decisions, which is the result of an inescapable human activity transposed into a public will.

In conclusion, rule of law prevails over the general recognition of a power for administrations to use automated administrative decisions, with a view to emerging the principle of protection[61] of the citizen's position over algorithmic decisions would affect.

2.2 *Responsibility and administrative algorithmic decision: the hazard (and paradox) of administrative decisions without responsibility*

A central issue in relation to automated decision is the risk of generating a pulverization (*polverizzazione*[62]) of administrative liability associated with the decision adopted. The theme is presented in terms similar to those analyzed in terms of imputation nexus, because also in terms of responsibility there is an algorithm between the official and citizens to be protected. As noted[63], modernity and complexity lead to a rethinking of re-

[61] It seems useful to recall the notion of technological due process, used by D.K. CITRON, *Technological due process*, in 85 *Wash. Un. L. Rev.* (2014), 1249 ff.

[62] M.C. CAVALLARO, G. SMORTO, *Decisione pubblica e responsabilità dell'amministrazione nella società dell'algoritmo*, in *www.federalismi.it*, 2019, 18; M.C. CAVALLARO, *Immedesimazione organica e criteri di imputazione della responsabilità*, in G. LEONE (*ed*), *Scritti in memoria di Giuseppe Abbamonte*, I, Napoli, 2019, 263 ff.; on the subject, see U. RUFFOLO, *Intelligenza artificiale, machine learning e responsabilità da algoritmo*, in *Giur. it.*, 2019, 1689 ff.; A.G. OROFINO, *L'automazione amministrativa: imputazione e responsabilità*, in *Giorn. dir. amm.*, 2005, 1307 ff.

[63] F. LIGUORI, *La funzione amministrativa. Aspetti di una trasformazione*, Napoli, 2010, 139 ff.

sponsibility of public administrations, and the issue of responsibility by algorithmic decision belongs perfectly to this theme.

The issue is closely linked to that of legality, understood as a finable responsibility, in the sense that the conferral of power has as a direct and inseparable consequence the assumption of responsibility[64].

The real danger of an administration hiding behind the algorithm and of a decision without relative responsibility undermines the foundations of the entire system of the rule of law. The threat of the algorithm re-emerging areas of irresponsibility on the part of public administrations[65]. The algorithm also pla-

[64] On the subject, authoritatively, G. BERTI, *La responsabilità pubblica. Costituzione e amministrazione*, Padova, 1994, 50 ff.; L. TORCHIA, *La responsabilità dirigenziale*, Padova, 2000, 44 ff.; on the subject, reference is also made to the comparative perspective, L. TORCHIA, *La responsabilità della pubblica amministrazione*, in G. NAPOLITANO (*ed*), *Diritto amministrativo comparato*, Milano, 2007, 265; B. MARCHETTI, *La responsabilità civile della pubblica amministrazione: profili comunitari e comparati*, in *Dir. proc. amm.*, 2017, 499 ff.; S. BATTINI, *Responsabilità e responsabilizzazione dei funzionari e dipendenti pubblici*, in *Riv. trim. dir. pubbl.*, 2015, 53 ff.; F. MERUSI, *Pubblico e privato nell'istituto della responsabilità amministrativa*, in *Dir. amm.*, 2006, 4 ff., administrative liability applies to all persons included in any capacity in administrations qualifying as such on the basis of substantial indices of publicity, because this is one of the criteria used by legislator to bring executive power to a united entity

[65] A. POLICE, *Il principio di responsabilità nei rapporti tra cittadini e pubbliche amministrazioni,* in M. RENNA, F. SAITTA (*eds*), *Studi sui principi del diritto amministrativo,* Milano, 2012, 195 ff.; E. SCOTTI, *Appunti per una lettura della responsabilità dell'amministrazione tra realtà e uguaglianza*, in *Dir. amm.*, 2009, 521 ff.; D. SORACE, *La responsabilità amministrativa di fronte all'evoluzione della pubblica amministrazione: compatibilità, adattabilità o esaurimento del ruolo?,* in *Dir. amm.*, 2009, 521 ff.; A. ROMANO, *Giurisdizione amministrativa e limiti della giurisdizione ordinaria*, Milano, 1975, 280 ff., the damage caused by the administration must in no way be borne by the citizens.

ces itself in a position of responsibility and puts in crisis the search for a subjective element of the same[66].

The risk lies in the adoption of a decision without responsibility, given that, obviously, the algorithm itself can neither be imputed to the decision nor be responsible for it; in other words, the potential retreat of guarantees during the investigation (because it is impossible to interact with an algorithm as it is done with an official) must be guaranteed in terms of liability.

The risk of a decision without responsibility (a real legal oxymoron) also lies in the approach of administrative courts, according to which, by unanimous interpretation in relation to the non-attribution of the fault if there is an excusable error for the complexity of the factual situation[67], and the case of the algorithm seems to fall within this hypothesis. As noted above, use of algorithmic tools should not be a pretext for circumventing principles governing administrative action, and this is more true when compared to the administrative responsibility of algorithmic decisions.

Here, too, the subject is proposed in terms of imputation of responsibility.

The first circumstance to be guaranteed is the transparency

[66] F. FRACCHIA, *L'elemento soggettivo nella responsabilità dell'amministrazione*, in *Atti del Covegno di Varenna 2008*, Milano, 2009, 211 ff.; F. TRIMARCHI BANFI, *La responsabilità civile per l'esercizio della funzione amministrativa*, Milano, 2009; G.D. FALCON, *La responsabilità dell'amministrazione e il potere amministrativo*, in *Dir. proc. amm*., 2009, 241 ff.; G.D. COMPORTI, *Responsabilità della pubblica amministrazione*, in S. CASSESE (*ed*), *Dizionario di diritto pubblico*, V, Milano, 2006, 703 ff.; R. CARANTA, *La pubblica amministrazione nell'età della responsabilità*, in *Foro it.*, 1999, 2487 ff.; M. OCCHIENA, *Il 'nuovo' responsabile del procedimento, la responsabilità dei dirigenti pubblici e il labile confine tra la politica e l'amministrazione*, in VV. AA. (*eds*), *Verso un'amministrazione responsabile*, Milano, 2005, 254 ff.; M. RENNA, *Obblighi procedimentali e responsabilità dell'amministrazione*, in *Dir. amm.*, 2005, 557 ff.

[67] *Ex multis*, Cons. St., Sec. II, 24 July 2019, no. 5219; Cons. St., Sec. V, 18 January 2016, no. 148; T.A.R. Campania, Napoli, Sec. V, 1 August 2019, no. 4231; T.A.R. Sardegna, Cagliari, Sec. II, 24 July 2019, no. 668.

itself of the functioning of the algorithm, to allow a judicial assessment of the responsibility, which, in any case, is always of the proceeding administration. This aspect is central in terms of protection of citizens and therefore the assessment of responsibility; administrations must have the obligation to communicate if the decision has been adopted (or supported) by an algorithm and make known the functioning of the same[68].

Once again, transparency seems to be the key to resolution; transparency is linked to the responsibility of administration to demonstrate that the input provided and the functioning of the algorithm complies with legal requirements.

In strict terms on the issue of responsibility of public administrations and the increased difficulty in case of algorithmic decision, to ascertain the subjective element, the lack of a unique model of reference involves significant risks.

The hope that comes from several parts of a unambiguous fault to be traced in the objective responsibility of the administration seems to be desirable[69], also and above all in the hypotheses of decisions through algorithm, in which the ascertainment of the subjective element, mediated by *AI* seems complex, not to say not of an element that cannot be ascertained.

Assessment of attribution of responsibility and therefore of the subjective element is a complex and unresolved issue in itself, use of the algorithm must not be the pretext for a return to the past in relation to an irresponsibility of administrative apparatus; in other words, algorithm must not prove to be an

[68] See D.R. RESAI, J.A. KROLL, *Trust but verify? A guide to algorithms and the law*, in 31 *Har. J. L. & Tech.* (2017), 1 ff.

[69] G. BERTI, *Diritto e Stato*, quoted, 164 ff., the will is no longer individual, but derives from the act and from this a path can be derived towards the objectification of responsibility; S. VALAGUZZA, *Percorsi verso una 'responsabilità oggettiva' della pubblica amministrazione*, in *Dir. proc. amm.*, 2009, 49 ff.; in a compliant sense, to which reference is also made for the extensive bibliographic apparatus C. FELIZIANI, *L'elemento soggettivo della responsabilità amministrativa. Dialogo a-sincrono tra Corte di Giustizia e giudici nazionali*, in *www.federalismi.it*, 2018, 26 ff.

instrument of escape from the responsibility of public administrations.

Another solution could be the adoption of algorithms defined as accountable[70], i.e. respectful of the founding principles of domestic law, through an oriented use of source code, even if the implementation of these aspects is complex.

Difficulties in terms of imputation of liability must not be an obstacle to the entry of such instruments into the administrative action, which has been speeded up, but the risk that such algorithms conceal or make more complex the assessment of the responsibility of the administration must be avoided.

Exercise of public power, regardless of the mode chosen by the same, must be responsible for any prejudices caused in a delicate balance between benefits offered by the *AI* and determination of responsibility[71].

However, in accordance with the solution proposed above, it is not possible at this stage to envisage a fully automated administrative decision that is completely impersonal and lacks capacity for evaluation of civil servants, which only allows recourse to the servant function of the algorithm that leaves the imputation and responsibility to the proceeding administration.

3. *Algorithms and administrative organization: positive models and necessary adjustments in school and justice administrations*

The possibility of applying an algorithm to organizational phase (what authoritative schlars defined organization in a static

[70] S. BAROCAS, *Accountable algorithms*, in 165 *U. Pa. L. Rev.* (2017), 633 ff.

[71] M.C. CAVALLARO, G. SMORTO, *Decisione pubblica e responsabilità*, quoted, 22.

sense[72], administrative apparatus) opens up the possibility of remodeling organization on the basis of data acquisition, on the basis of the potential of the administrations or on the basis of the requests of the users and seemed to be a peaceful field also for experimentation of a new model of administration; this was not the case, as will soon be said, and causes must be investigated in a timely manner.

The issue fits perfectly in the wake of administrative decisions, both because the organizational choice is in itself a decision (and as such must be motivated), and because of the link of functionality that exists between organization and adoption of administrative decisions[73].

Observations are made in relation to two strategic fields of the state of law, education and justice, and it is necessary, for different findings and conclusions, to make two autonomous analyses.

[72] The famous wording is by R. MARRAMA, *Organizzazione in senso statico ed in senso dinamico*, in F.G. SCOCA (*ed*), *L'organizzazione*, in Vv. Aa. (*eds*), *Diritto amministrativo*, I, Bologna, 1993, 323 ff.

[73] On this aspect, in the traditional sense, *ex multis*, M.R. SPASIANO, *Punti di riflessione in ordine al rapporto tra organizzazion pubblica e principio di legalità: la «regola del caso»*, in *Dir. amm.*, 2000, 341 ff., it is a shared affirmation that the two aspects of the organization and the activity of the public administration are intimately connected, placed in a relationship of functional interdependence. Impartiality and good performance, in different meanings that they have intended to attribute to them, constitute inspiring principles both of organizational structure and of action of public authorities; C. FRANCHINI, G. VESPERINI, *L'organizzazione*, in S. CASSESE (ed), *Istituzioni di diritto amministrativo*, Milano, 2012, 92 ff., the increase in the powers of the administration and officials results in less formality and greater autonomy in the organizational choices of the same administration; M. NIGRO, *Studi sulla funzione organizzatrice della pubblica amministrazione*, Milano 1966, 124 ff., the relations between the public administration's organization and activities are in a state of continuity, and are inseparable from each other

3.1 *The algorithm and the reform of schooling system: the retrocession of the AI to serving function*

Most of the doctrinal contributions and rulings of administrative courts mentioned in this chapter on the subject of administrative decisions taken by means of an algorithm were concerned with the extraordinary plan of recruitment in the school system, which should be reported on, given the centrality of the subject.

By the Law 15 July 2015, no. 107, the law on the so-called '*Buona Scuola*', *MIUR* (Ministry of Instruction, University and Research) implemented a plan of permanent recruitment and mobility on a national scale[74].

Specifically, this second aspect, that of the interprovincial mobility of teachers, was carried out with an algorithm, in order to assist the Ministry during the difficult mobility procedure. The mobility procedure, with the relative identification of the final location of the teacher, was completely surrogate with an automatized decision[75].

It is opportune to report that the interprovincial mobility concerns a bound administrative activity; this assumption is to support that approach which diminishes the difference between bound and discretionary activity for recourse to the decision through algorithm.

This procedure gave rise to a wide-ranging legal dispute at Administrative and employment Courts, since the teaching staff

[74] For an overview, see I. FORGIONE, *Il caso dell'accesso al software MIUR per l'assegnazione dei docenti*, in *Giorn. dir. amm.*, 2018, 647 ff.

[75] Cons. St., Sec VI, 2 October 2017, no. 4564, in *Foro amm*., 2017, 2024, that states that the Ministerial Order (*MIUR*) 241/2016 despite being an act of macro-organization is subject to the jurisdiction of Administrative Court for actions relating to injuries of transfer events managed by an algorithm. The individual transfers decided by the algorithm were the subject of specific complaints about various defects.

complained about the assignment in provinces far from their residence, despite the fact that closer offices were available.

In this circumstance, the T.A.R. noted that the fully automated procedure can never replace cognitive, acquisition and judgement activity that is rooted in administrative investigations conducted by the official as a natural person[76].

The automated decision in the present case replaced the traditional decision, accompanied by a statement of reasons, which had a direct impact on the legal positions of teachers with regard to constitutionally guaranteed rights.

The relegation of algorithms to a merely serving function and not a substitute for administrative decisions seems to be the best solution, even in hypotheses, such as that relating to good school where organizational profiles of public administrations are faded into the (constitutional) rights harmed by citizens.

3.2 *Insights from the administration of justice for algorithms: Calendar and G.I.A.D.A. modules*

Interesting points of reflection on the subject of organization, particularly justice, are raised by the algorithms modules Calendar and *G.I.A.D.A.*, introduced to support the organization of justice, for now only criminal and only on an experimental basis in some courts.

These two algorithms have the role of organizing equitable distribution of workloads between Judges with automatic and predetermined criteria.

The system, even if experimental, has a considerable impact, because this algorithm is responsible for the determination of the natural Judge pre-established by law, as referred to in article no. 25 of the Constitution. Also in this hypothesis, as seen for the mobility of teachers, the choice to use the algorithm, con-

[76] T.A.R. Lazio, Roma, Sec. III-*bis*, 11 July 2018, no. 9230.

ceived from an organizational point of view, has repercussions on constitutionally guaranteed rights.

The Calendar algorithm calculates the scheduling to distribute the workloads among judges in a time period defined on the basis of two parameters, namely the services possible in days of court hearings and the actual availability of judges.

The Calendar system has been designed without any model of power of attorney or court of reference, as it provides Courts with only general criteria.

In this case, it returns the servant function of the algorithm with respect to administrative activity, even if referred to the organization.

After entering data, the model generates a provisional calendar, as the court can always modify it; the distinction between provisional decision by algorithm and a clause of modification by administrations fades away[77].

The *G.I.A.D.A.* (*Gestione Informatica Automatizzata Assegnazioni Dibattimento*) module is even more relevant, since it assigns the judge of the trial, by virtue of article no. 25 of the Constitution referred to above.

This aspect seems to be of central interest, since it refers to an AI protection provided by the Constitution, according to which the law predetermines the so-called natural judge. In this case, the algorithm acts as executor of legislative data, but the distribution of the files among individual judges is carried out by an *AI*.

In other words, there is a constitutional guarantee determined by an algorithm.

The system supports assignments of the first criminal hearing for collegial and monocratic proceedings; objective of the algorithm is the fair distribution of workloads between the different sections of criminal courts.

[77] S. CIVITARESE MATTEUCCI, *Umano troppo umano,* quoted, 40.

In addition, the system takes into account the period of work suspension that must be configured at the time of preparation of the calendar, as well as any exemptions of individual magistrates.

G.I.A.D.A. is configured to ensure the increased productivity of the individual magistrate (with a view to the efficiency of the administration of justice, in line with article no. 97 of the Constitution)[78].

Even in this case, the mechanism allows, in certain cases related to procedural or investigative needs, to modify the schedule and the proposed load of court hearings, so as to prevent the scheduling of criminal proceedings from running out of time and undermining the administration of justice.

Systems have produced an equitable distribution of the load of the processes, to avoid (or limit) the biblical times of the Italian justice with good results in organizational terms of the courts that have experimented with such algorithmic solutions.

The mechanism of modification downstream allows to limit the errors of the algorithm that, as previously pointed out, returns to have an ancillary position and support to that of the administration, but never entirely substitutive.

4. *Right of access to documents and algorithmic decision. Concluding remarks*

In conclusion of this part of the survey it is useful to refer to a study conducted on the possibility of subrogation of the decision to grant access or not to the acts of public administrations with an algorithmic decision.

An interesting study recently conducted by *Yale Law & Technology School* proposed the implementation of an algo-

[78] For a detailed analysis, please refer to *www.csm.it*, parameters are the definition of a maximum number of proceedings, a maximum number of urgent proceedings and a maximum number of direct subpoenas.

rithm for transparency (precisely in the context of the the changes that are happening in administrative action), according to which the opportunity to disclose or not an act detected by public administration is relegated to a calculation made on the basis of the profile of the subject who submits the request (the subject concerns the issue of automated decisions and the need to maintain a component of human will within public determination)[79].

The analysis appears to be absolutely necessary for subject under consideration, but it does not seem to be compatible with Italian administrative law, governed by principle of traceability and imputability to an intentional human act (and specifically with the right of access regulated by article no. 22 of Law 7 August 1990, no. 241), which has as its essential premise the exer-

[79] R. BRAUNEIS, E.P. GOODMAN, *Algoritmic transparency for the smart city*, in 20 *Yal. L. & Tech. Jour.* (2018), 103 ff., "as artificial intelligence and big data analytics increasingly replace human decision making, questions about algorithmic ethics become more pressing. Many are concerned that an algorithmic society is too opaque to be accountable for its behavior. An individual can be denied parole or credit, fired, or not hired for reasons that she will never know and which cannot be articulated. In the public sector, the opacity of algorithmic decision making is particularly problematic, both because governmental decisions may be especially weighty and because democratically elected governments have special duties of accountability", and in addition, "What is smart in the smart city comes to reside in the impenetrable brains of private vendors while the government, which alone is accountable to the public, is hollowed out, dumb and dark. The risk is that the opacity of the algorithm enables corporate capture of public power. When a government agent implements an algorithmic recommendation that she does not understand and cannot explain, the government has lost democratic accountability, the public cannot assess the efficacy and fairness of the governmental process, and the government agent has lost competence to do the public's work in any kind of critical fashion". In other words, it is necessary to balance the principle of transparency of administrative acts or the protection of personal data with the right to privacy. In addition, another problem is the relationship between the necessary transparency of the functioning of algorithms that make decisions of public relevance and the protection of the copyright of those who created the algorithms themselves.

cise of discretionary power, which in this way would be replaced by an automatism.

Moreover, with this system the same algorithm could not guarantee the minimum quality of the information to be made available to the collectivity. In addition to these concerns, related to the compatibility with the principles of Italian administrative law, administrative decisions adopted on the basis of an algorithmic calculation presents problems of reliability and imponderability, for various reasons, implying a discretionary assessment made by the administration.

The proposed study and the relative possibility (on an experimental basis) of guaranteeing or not access to the acts of the administration on the basis of an algorithm that profiles the requesting subject seems to be in total contradiction with the legislative guidelines, by virtue of which not only would it be detrimental to the citizen to be subjected to a fully automated decision, but it would be more profound if linked to the need – linked to the democratic nature of the administrative action – to access the acts of public administrations, in compliance with principle of transparency and knowledge of the same.

Administrative decisions are essentially chosen among different alternatives which, on the basis of the investigation carried out, represent different ways of solving the administrative problem; decision-making process manifests itself in the position of the problem and in the subsequent steps aimed at resolving it[80]. The decision is a comparative evaluation of different interests, the consistency of which results from creative contribution of

[80] F. LEDDA, *Concezione dell'atto amministrativo*, in U. ALLEGRETTI, A. ORSI BATTAGLINI, D. SORACE (*eds*) *Diritto amministrativo e giustizia nel bilancio di un decennio di giurisprudenza*, Rimini, 1987, 777 ff., now in *Scritti giuridici*, Padova, 2002, 237 ff.; fully in line with that interpretation F. MERUSI, *Ragionevolezza e discrezionalità*, quoted, 20, each administrative decision must be adapted to the variables of the specific case and not all the factors are predeterminable, the mathematics (and therefore the algorithm) can be a useful investigative tool, but it does not replace the decision.

the public official; a creative character that cannot belong to a machine.

CHAPTER IV

SYNTHESIS THOUGHTS: COMPLIANCE WITH CLASSICAL PRINCIPLES OF ADMINISTRATIVE LAW IN THE EVOLUTION OF TASKS OF PUBLIC ADMINISTRATIONS. NOTES ON THE ROLE OF LEGISLATOR, ADMINISTRATION AND COURTS

TABLE OF CONTENTS: 1. Cognitive activity and decision making phase: privileged observers to analyze the evolution of tasks and ways of administrative activity. – 1.1 Digitization, its tools and its impact on administrative law. – 1.2 The actuality of rules governing administrative activity. – 2. Legal certainty as the cornerstone of future reforms. – 2.1 Challenges for Italian legislator: thoughts on the way to legislate for public administrations. – 2.2 The (obviously core) role of public administration. – 2.3 The interpretative and supplementary role of administrative courts. – 3. Synthesis reflections. The necessary preservation of legal categories.

1. *Cognitive activity and decision making phase: privileged observers to analyze the evolution of tasks and methods of administrative activity*

Public administrations and administrative law that regulates its aspects, limits in action, responsibilities must constantly come to terms with changes in society in order to adapt its powers to the changing public interest to be pursued.

Cognitive activity and the decision-making phase of public administration have been a privileged observatory from which to study and try to imagine future scenarios of administrative action and how legislation can accompany this path.

In this final part of the work, aim is to give an account of pecualiarities that are characterizing the evolution of the administrative activity, which are legislative profiles clearly inadequa-

te and which may be the roles of legislator, scholars and courts in this administrative activity that evolves, some aspects and tools are already visible and are providing, *in vitro*, the first manifestations.

The choice of these key aspects of administrative action has shown significant changes in exercise of administrative functions, how external elements affect this activity, what critical aspects are found and what aspects of the legislation appear obsolete as some aspects of administration's tasks are regulated nowadays

1.1 *Digitization, its tools and its impact on administrative law*

First of all, it has been revealed, both in the acquisition of knowledge by administrations (not to be confused with the enquiry phase in the strict sense) and in decision phase, public administration needs to employ *ICTs*, which become the essential element for exercise of the activity[1].

Effects of digitization are reflected in a number of tools that can assist administrative activity.

It should first be noted that *ICTs* represent a heterogeneity of different tools (algorithms, data, databases) that can be used for different purposes and that are often not regulated for purposes of use related to the care of the public interest, and therefore must be subject to compliance with rule of law.

The first cross-cutting effect that has proved to be, regardless of the instrument used, is an impact (a so-called macro-effect[2]) on administrative organization.

Impacts are reflected both in terms of organization by territory, since one of factors of digitization is the reduction of space

[1] E. CARLONI, *Algoritmi su carta*, quoted, 364 ff., digitalization must be instrumental in achieving results that must be pursued through comprehensive reform policies, covering the structure, action and staffing of the public administration.

[2] J.B. AUBY, *Il diritto amministrativo di fronte*, quoted, 620.

and consequently of offices and their distribution on the territory, and organization by competence, since one could go towards the so-called trans-sectorality of administrative tasks.

Data will be the essential element of public administration in the near future, the raw material from which it will no longer be possible to ignore, because it will summarize in its entirety all information, memories, documents, investigations necessary for the care of public interest. Innovation factor lies in the amount of data available through databases, the speed of dissemination and circulation of the same.

In this sense, a factor for improvement – not absolute because it is appropriate to take into account the use made of it by administrations – is availability of data that improves cognitive heritage that public administrations have at their disposal in the context of administrative investigation. The danger is represented by an administration that has complete confidence in data, avoiding to carry out that cognitive activity which, due to ever increasing complexity of tasks for which it is responsible, appears to be fundamental.

In relation to decisional phase, the need for T.A.R. to operate an additional role with respect to that of the legislator regarding the use by administrations of algorithms for adoption (or support) of administrative decisions has been revealed.

The conclusions reached (on the basis of the enhancement of the principle of legality and the need to link administrative decisions to a responsibility of the same administration) are in the direction of admitting an ancillary role of algorithms, but never entirely replaced by the decision by public administrations. The need identified concerns duty for administrations to disclose inputs entered into the algorithm and operation of the same, in order to be appreciated by private individual (but also by the community and administrative judge) in what way the *AI* has an impact on the administrative decision.

A common conclusion to both aspects (cognitive activity-

data and administrative decision-algorithm) is the need to preserve the human aspect.

The composition of different positions, both in data acquisition phase and in decision-making one, which must balance all components of administrative action, and respect the rights of citizens, cannot be separated from a human evaluation.

Both phases, which have a particularity and a significant impact on the administrative action as a whole, must be based on public will, the will of the administration, which can be supported by instruments that increase its knowledge or speed of execution, but never replaced by them.

1.2 *The actuality of rules governing administrative activity*

Further aspects that the use of *ICTs* (understood as factors and elements that become essential for public administrations) submits to critical analysis concerns the very way of legislating in relation to tasks of which administration is owner and the timeliness or need to recover the value of certain aspects and standards already existing.

Primarily, it affects the process of lawmaking, since the rapid obsolescence of rules governing aspects subject to rapid and sudden changes, especially if related to technological development, would suggest a return to a way of legislating with (few) general rules, reflecting the principles of administrative action.

With regard to existing rules governing administrative action, the research revealed and showed different achievements.

In relation to cognitive activity, the need to rethink nerve and central role of *RUP* was represented, which has to manage different instruments compared to those conceived by the legislator with the Law 241 of 1990 (and subsequent amendments).

Cognitive phase (if during procedure it becomes the inquiry phase) remains the centre of gravity of administrative activity

but it is necessary that this activity adapts to the amount of data and information held by the administration.

The role of the *RUP* is still core and cross-cutting, however, a series of inspection and data acquisition activities could be calibrated to new availability of cognitive heritage[3]. For example, an *ad hoc* provision could be envisaged requiring control and reliability of data, a task which could be carried out by the *RUP* itself.

Similarly, again with regard to enquiry phase, administration's datafication can, and probably should, lead to a redefinition of the conference of services,

As far as the decision phase and the impact that the algorithm can have on it are concerned, three main aspects are noted.

The first aspect, which is absolutely central, is the adherence of the rule of law in terms of imputation of power – which in hypothesis of the algorithm is lacking – which leads to a stretching of the very scope of the rule of law[4], increasingly marked by the public interest and increasingly far from the predetermination in the strict sense of the law. The solution, which to date seems more coherent with the principles of the administrative legal system, concerns the possibility of admitting an ancillary and servant role of the *AI* and never a substitute for the administrative decision.

The second aspect allows for a reassessment of the value of the motivation of the decision, which for a long time has been the subject of a de-quotation in the name of drives in efficient directions of the activity.

The need to resort to algorithms in respect of which, ob-

[3] On this aspect, also with regard to the respect of fundamental rule of law, see the authoritative study by M. NIGRO, *L'azione dei pubblici poteri. Lineanmenti generali*, in G. AMATO, A. BARBERA (*eds*), *Manuale di diritto pubblico*, Bologna, 1984, 833 ff., according to which the guarantee function of the proceedings, which incorporates the principle of legality

[4] G. BERTI, *Diritto e Stato*, quoted, 161 ff.

viously, the power conferred by law is lacking, makes it possible to split the function and the sense of motivation.

First, the administration must motivate the decision to use the algorithm and second, it must motivate and account for the operation of the algorithm and the inputs entered under which it works. In this sense, the use of instruments that support and have a complementary role to play in administrative action marks a new season of enhancement of the motivation for the decision in a twofold direction.

The third aspect concerns the need to ensure an adequate degree of responsibility of the administration that uses the algorithm in decision-making phase, in order to avoid a new season of irresponsibility of the administration. The only imputation criterion that can ensure this aspect seems to be the strict responsibility of the administration that uses algorithmic decisions.

It is clear that use of *ICTs* entails potential benefits and as many risks, revalorizes some legal structures and requires the rethinking of others, in a perspective of administrative activity that is undeniably increasingly oriented towards efficiency and the result to be achieved.

The risk, however, is to conceive of a public administration of a purely business nature[5], with an overlay that risks sacrificing the principle of legality with that of good performance at all costs, even at the risk of compressing citizens' rights or to overlap public interest with other aspects which do not coincide

[5] G. GUARINO, *Quale amministrazione?*, Milano, 1985, 111 ff., efficiency in its original corporate meaning of congruence between resources and the objective to be pursued is a typical paradigm relating to the organizational structure of the public administration, it even becomes an integral part of it when it is attributed the main meaning of impartial efficiency or public efficiency, with which impartiality and good performance arise to typifying elements that allow a public administration to operate also in view of a result in terms of publicity.

with the well-being of the community, i.e. purpose for which a public administration must aim.

2. *Legal certainty as the cornerstone of future reforms*

A recent essay[6] has revisited a central theme for the analysis of the survey carried out, which has emerged mainly in terms of the production of public certainty regarding the use of the algorithm in the adoption of public decisions, but seems to be transversal throughout the survey, although at times less evident.

The issue is that of legal certainty, which goes beyond the issue of legal certainty that has been discussed at length in context of public administration reform policies.

Increasing complexity of tasks for which the public administration is responsible, the continuous and growing impact that *ICTs* have on the cognitive and decision-making phase (but not limited to), the push in terms of a global administrative law undermine the value of legal certainty in relation to the evolution of tasks of the public administration.

The address has to be presented under two different scopes.

First, the same notion of legal certainty must be reconsidered in relation to tasks of the public administration, which is increasingly entrusted to technologies, which, although they may be known in their operation (as must happen in the case of al-

[6] C. PINELLI, *Certezza del diritto e compiti dei giuristi*, in *Dir. pubbl.*, 2019, 551, without legal certainty, the opportunities for the protection of legitimate expectations under administrative law are reduced; G. GOMETZ, *La certezza giuridica come prevedibilità*, Torino, 2006, 80 ff.; A. ROMANO TASSONE, *Amministrazione pubblice e produzione*, quoted, 872; M. CORSALE, *La certezza del diritto*, Milano, 1970, 3 ff.; G. PALOMBELLA, *Dopo la certezza: il diritto in equilibrio tra giustizia e democrazia*, Bari, 2007; L.R. PERFETTI, *Discrezionalità amministrativa*, quoted, 356 ff.; M. CORSALE, *Certezza del diritto e crisi di legittimità*, Milano, 1979; M. LONGO, *Certezza del diritto*, Torino, 1959.

gorithms) reveal phases that are beyond the knowledge of administrators and citizens and which certainly cannot be regulated.

The second aspect reconsiders the value of legal certainty, which in administrative law must be read in the light of the right to good administration and the entrustment[7] of citizens. From this point of view, legal certainty can also be withdrawn or restored to the citizen's expectations or needs.

In this perspective, the right to good administration does not necessarily correspond with legal certainty.

The value of legal certainty when read from the point of view of the tasks of the public administration must be read in two typifying moments, namely the investigation and the manifestation.

In relation to these two traditional moments in terms of administration providing legal certainty, it is necessary to consider the role that *ICTs* can have and how the role of administration itself and the perception of activity by citizens change in this sense.

This process of accompanying the administration in the development of its tasks, with the objective of good administration, respect for the trust generated in the private individual and the production of elements of legal certainty must be carried out by all those involved in various ways in this process.

For this reason, an analysis is chosen that highlights the role of each of the individual actors.

The cross-cutting point around which to focus such summary reflections seems to be the value of awareness of the extent of changes in the tasks of the administration.

[7] F. MERUSI, *L'affidamento del cittadino*, Milano, 1970, 21 ff.; F. MANGANARO, *Dal rifiuto di provvedimento al dovere di provvedere: la tutela dell'affidamento*, in L. GIANI, A. POLICE (*eds*), *Itinerari interrotti. Il pensiero di Franco Ledda e di Antonio Romano Tassone per una ricostruzione del diritto amministrativo*, Napoli, 2017, 121 ff.

2.1 *Challenges for Italian legislator: thoughts on the way to legislate for public administrations*

First of all, the role of Italian legislator in this process of change should be evaluated, starting from the awareness of the same[8].

Findings on knowledge and decision making, and in the first part in relation to digitalization policies as a prerequisite for these changes, reveal a key role in terms of legislative policy.

There is no preference here for a way of legislating to regulate tasks held by publis administrations, in relation to classic division between a few general rules (really such) and abstract or multiple detailed provisions.

A preliminary datum is the need for legislator to become aware of the evolution and change that the administration is going through in the performance of its tasks. In this sense, a positive opinion is expressed on the principle of the digital first that informs the 'Madia Reform', but this can only be a starting point.

The task of reform and constant adjustment of Italian legislator in terms of public administration is certainly difficult, since there are many values to balance and the so-called zero-cost reforms risk complicating an already uncertain and jagged legislative framework.

In relation to two aspects analysed as an expression of the evolution of administration's duties, two aspects emerge which the legislator cannot ignore.

In relation to cognitive activity, it is opportune to adapt the same activity of investigation that administrations carries out to the data, to databases, since the provisions of the CAD are not sufficient and since, in some aspects, rules that regulate the ad-

[8] On the subject of the relationship between legislation and administration, it is mandatory to refer to F.G. SCOCA, *Condizioni e limiti alla funzione legislativa nella disciplina della pubblica amministrazione*, in *Aldo M. Sandulli (1915-1984). Attualità del pensiero giuridico del Maestro*, Milano, 2004, 173 ff.

ministrative investigation (and not only in the ambit of the administrative procedure understood in strict sense) are obsolete. Datafication is a central aspect in the economy of duties that the administration must perform and must be exploited, but it must also be regulated, especially to protect aspects that seem to be excessively compressed or compromised by this process (the value of privacy on all, which seems to recede).

In relation to the aspect of the phase of adopting administrative decisions, the need to regulate the issue of the algorithm seems not to be postponable.

Although the widening of the legitimacy of the public administration on the basis of the care of the public interest and the achievement of results allows the transit from a legality linked to (public) interest to be pursued, the influence of a mechanism such as the algorithm on administrative decisions (and relative legal positions of citizens) cannot but be regulated in any aspect.

The conferment of a power remains a cardinal principle in the economy of principles of administrative law, to be considered as a force assigned to a subject (public administration) for the care of public interests; from this point of view, there does not seem to be room for technologies or algorithms to which the administration can delegate this power, which is only due to the latter by virtue of a legislative conferment[9]. Closely linked to

[9] In this sense, A. ROMANO TASSONE, *Note sul concetto di potere giuridico*, in *Annali della Facoltà di Economia e Commercio dell'Università di Messina*, 1981, 8 ff., the administrative power can be considered as an authority or as a way of carrying out and composing the various interests at stake; F. MANGANARO, *Dal rifiuto di provvedere*, quoted, 122, administrative power in its execution through the balance between the guarantee of formal guarantee rules and the need to pursue the public interest; A. ROMANTO TASSONE, *A proposito del potere*, quoted, 565; G. GUARINO, *Atti e poteri*, quoted, 105 ff.; A. ROMANO TASSONE, *Sui rapporti tra legittimazione politica e regime giuridico degli atti ei pubblici poteri*, in *Studi in onore di Leopoldo Mazzarolli. Teoria e storia. Diritto amministrativo generale*, I, Padova, 2007, 257 ff.

the issue of the conferral of power is the issue of the responsibility of the administration, a real keystone in the adoption of decisions of the administration, on which a clarification by the legislator would be desirable.

2.2 *The (obviously core) role of public administration*

For authoritative and unsurpassed interpretation duties held by public administration is to take decisions regulating the different interests[10].

The technological evolution, the possibility for administrations to have tools that facilitate, speed up and make more aware the exercise of the action of the same public authority is not necessarily a positive factor, because contraindications can lead to a general worsening of the same.

Also in relation to duties of the administration and the renewed ways of exercising power, the focus of the speech seems to be awareness, to guide such potential models of improvement of the activity in accordance with objectives set out in article no. 97 of the Constitution.

With regard to the management of data in the cognitive activity, the administration is required to check the truthfulness, reliability and updating of such data. The process of diffusion and interconnection of knowledge cannot be to the detriment or to the detriment of the investigative phase, which risks being flattened on the data.

Data must be the strategic support for the improvement of the cognitive activity, guarantee for private, and barycentre of administrative action which, as such, can be improved in the quantity of information held, but must be expressed in an investigation that gives account of activities carried out (both by the

[10] A. ROMANO, *Il cittadino e la pubblica amministrazione*, in *Il diritto amministrativo degli anni '80. Atti del XXX Convegno di studi di scienza dell'amministrazione. Varenna, Villa Monastero, 20-22 settembre 1984*, Milano, 1987, 179 ff.

RUP, in the case of concerted decisions, on the subject of a conference of services).

In relation to decision-making phase and the role of the algorithm, on the contrary, administrations seem to have a passive role with respect to what the legislator will decide in terms of conferring power or, in any case, regulating this aspect.

In any case, human component, in the case of control or in the case of directing the decision, is an inescapable factor, which cannot be lacking, to avoid the risk of impersonal and automated administration.

Moreover, relevance and definition of the public interest, from a legitimizing point of view of power, can only be entrusted to a private individual, who is able to fix the value of the same in a concrete situation, historically determined, endowed with the so-called creative[11] character that *ICTs* obviously lack.

2.3 *The interpretative and supplementary role of administrative courts*

The inertia – it is not known whether conscious or unaware – of the legislator on lawmaking regular aspects already existing in relationship between administration and citizens has led to a necessary additional action of administrative courts, at least with the so-called creative interpretation, which became necessary.

In this respect, the effort to restore the existing situation by seeking the legitimising factors of a power which, in the name of the right to good administration, is lacking in the wake of the principle of good administrative practice, is to be welcomed.

[11] The reference is necessary to the traditional analysis carried out by M.S. GIANNINI, *Il potere discrezionale della pubblica amministrazione*, Milano, 1939, 72 ff., interests must be subject to comparative weighting and it is precisely this weighting which helps to identify the same public interest.

The role of administrative courts must, however, be limited to providing keys to interpretation and interpretation, but it must not be a substitute for legislative duties.

Efforts and interpretations provided by administrative courts provide a key to interpretation which must necessarily be transposed, in the short term, by the legislator.

3. *Synthesis reflections. The necessary preservation of legal categories*

Synthesis thoughts can only take their roots from an inspiring impulse, which is also reported in the original version, according to which the traditional categories of law do not withstand the impact of modernity, but it is not easy to build new ones (*Le categorie tradizionali – pur utili per avere un linguaggio scientifico comunemente condiviso – non reggono all'impatto della modernità, ma non è facile costruirne di nuove*[12]).

In this respect, a sort of manifesto of the thought of the clo-

[12] F. MANGANARO, *Dal rifiuto di provvedere*, quoted, 123; in a sense consistent with that interpretation, a reference is made to M. RAMAJOLI, *L'esigenza sistematica nel diritto amministrativo attuale*, in *Riv. trim. dir. pubbl.*, 2010, 347 ff., in relation to the potential hazard of legal particularism as a disintegrated legal right in particular systems, the irrepressible need for certainty and stability in the law and thus also in the application of the law is based on the assumption that there are shared legal values; L. TORCHIA, *La scienza del diritto amministrativo*, in *Riv. trim. dir. pubbl.*, 2001, 1105 ff., the stability of the public administration and administrative law is a longstanding memory, and it is difficult to distinguish between what is permanent and what is temporary. General principles are and must be the starting point for detecting the existence of areas that can no longer be regulated in the traditional sense. Reflecting on general principles allows reasoning to be conducted in terms of compatibility, rather than supremacy, and allows a temperament between principles, and values they reflect, without imposing a predetermined order of priority and hierarchy at all costs.

sing of this analysis, it is necessary to accompany the change in tasks of the public administration, without betraying the fundamental principles.

The public administration as legality and the public administration as legitimacy were linked to an idea of power as unitary conferral, the same imposition of administrative power was legitimized in this way[13].

The first aspect to be safeguarded and to be prevented from being compressed under technological thrusts and relative efficiency drives, is rule of law, albeit in its teleological form, that is, based on the care of a public interest.

Moreover, as has been pointed out, the rule of law can be linked to values[14], principles and the so-called general clauses of the system, such as the good performance[15] and efficiency that the new instruments seem to impose as a driving force for administrative action in the near future.

Compliance with this principle prevents the definition of factual situations – so-called administrative problems – from being solved through calculations, *AI* or technological tools to which the law does not refer, either in terms of regulation or in terms of power.

The creative activity of the administration remains an inescapable moment, linked to conferral of a power, but in broad terms, that allows the administration to act because the public

[13] G. BERTI, *Diritto e Stato*, quoted, 308, 310, in these terms, responsibility was the rule for closing the legal system.

[14] On this possible welding moment, F. LEDDA, *La legalità nell'amministrazione: momento di sviluppo e fattori di crisi*, in G. MARONGIU, G.C. DE MARTIN (eds), *Democrazia e amministrazione in ricordo di V. Bachelet*, Milano, 1992, 153 ff., now in *Scritti giuridici*, Padova, 2002, 295 ff.

[15] F.G. SCOCA, *Amministrazione pubblica e diritto amministrativo nella giurispudenza della Corte Costituzionale*, in *Dir. amm.*, 2012, 21 ff., good performance is a concrete principle, applicable to the individual provisions of the law, while good administration can be the final landing stage.

interest is a value of the action, for which the administration is responsible.

This seems to be the other central theme, which if read in conjunction with the principle of legality can support the change of tasks of the administration in respect of traditional categories; a sort of red thread, between the principle of legality and responsibility of the administration.

Evolutions of task and methods of execution of the same by the administration must maintain that human component, which is able like no *ICTs* to balance the different in play and allows to assign a responsibility to the agent.

The same choice (because it is a matter of choice) of using technological tools, data and algorithms must be placed at the head of the administration in terms of responsibility.

The imputation of responsibility for the use of data and algorithms both in terms of choice and concrete use for the adoption of decisions and administrative measures takes the form of a guarantee for the private individual and imposes a more conscious use of these tools on the administration itself, which cannot be entrenched behind the irresponsibility of the machines.

In this sense, principles and general categories of administrative law, as developed over years, can support and preserve paths of changes in tasks that public administrations must perform, to avoid a Tibetan segregation of the deciding public subject, without eliminating the necessary human component that brings essential values of proportionality and reasonableness, not reproducible in any artificial instrument.

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