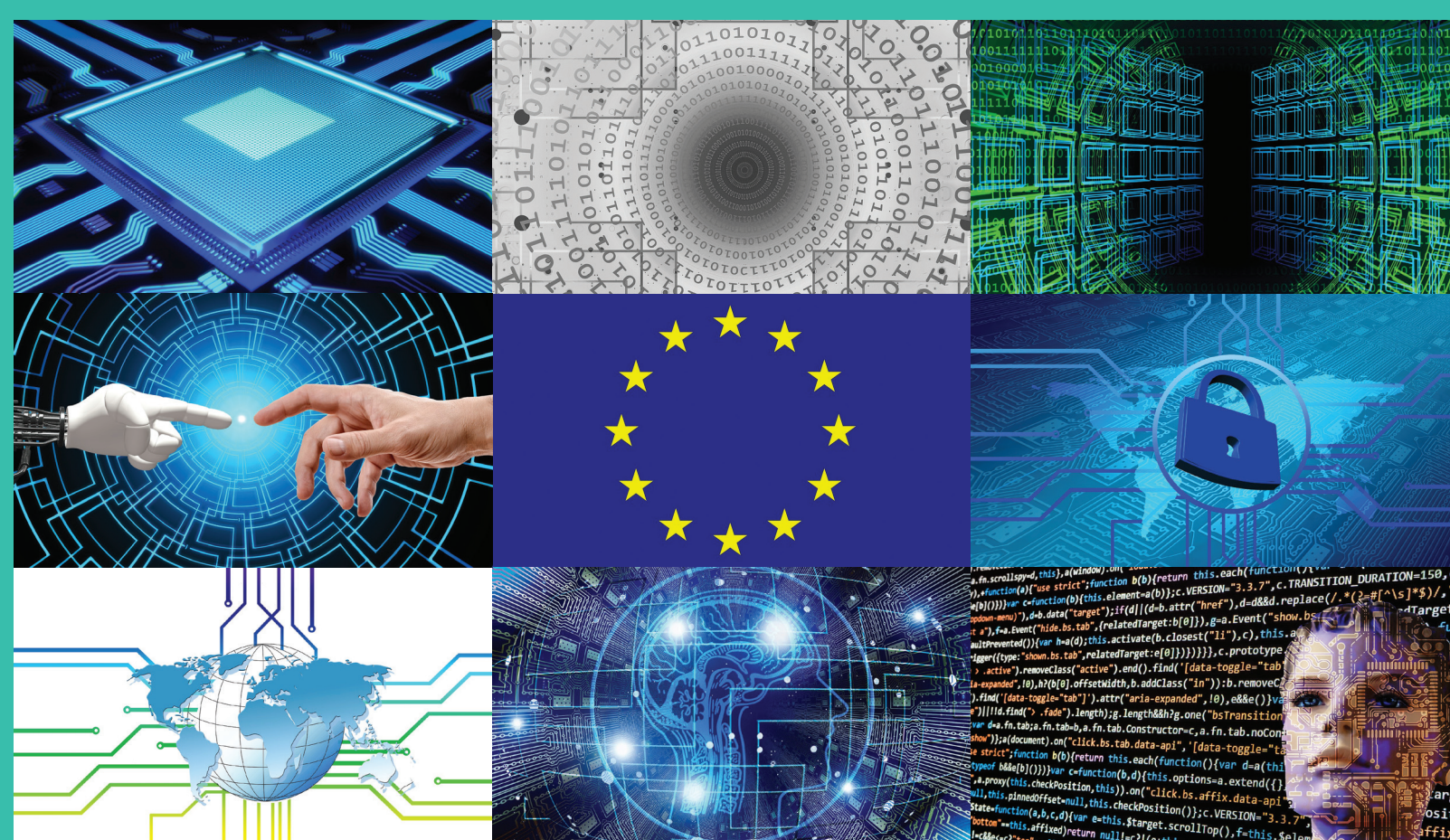


EUROPEAN REVIEW OF DIGITAL ADMINISTRATION & LAW

VOLUME 2
ISSUE 1
2021

SMART CITIES



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Peer review procedure

This journal uses a double-blind review model.

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European Review of Digital
Administration & Law

2021

Volume 2

Issue 1



aracne

©

ISBN

979-12-59944-243-2

IST EDITION

ROMA JUNE 2021

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The relationship between Law and Technique in the construction of Administration by algorithms*

Alessandro Di Martino

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ABSTRACT The aim of this article is to analyse the construction of the new way of administration, that is through computer algorithms, starting from the relationship between technique and law. The article is divided into two parts. In the first one, the concept of technique is analysed discussing some characteristics, such as its claimed neutrality and effectiveness. In this part of the work, after having retraced the entry of new technologies into public law, the creation of a fourth phase of computerisation is hypothesised, characterised by the frequent use of administrative automation. In the second part, the most problematic aspects of the indiscriminate use of algorithms in administrative procedures have been addressed: it has been highlighted, in fact, a potential crisis of transparency and participatory decision-making, which is due to the difficulty of justifying computer-generated measures. In conclusion, it was felt that the only way to balance law (in declining proportion) with technology (in increasing proportion) was to provide the administration with knowledgeable personnel capable of handling technique. If not, we are increasingly destined to be dominated by the supremacy of the technique.

1. Technical complexity and defining profiles

Administration by algorithms is a topic on which the current legal debate is extremely animated, in which one can find the most different positions of the scholars with regard to a complete admissibility or limited to some procedures, as well as case law which is far from granting a sufficient share of stability for administrations and citizens.

In my opinion, however, before discussing the compatibility of the new IT tools with the ordinary activity of the public administration, it is necessary to make some preliminary remarks on what should be considered by technique, especially since the topic is extremely problematic.

In particular, the variety of meanings of the term is certainly what makes the framing of the relationship between technology and law very challenging. I would immediately anticipate one of the conclusions that will be later drawn on the relationship between public power and IT tools. Namely that only a certain interpretation of technique - in which this one is considered in terms of efficiency of the measures and completeness of the preliminary investigation - seems, in my mind, legally compatible with the assessments of opportunity that characterise the administrative activity and, above all, with political assessments.

As can be seen from what has been said above, the process of delimitation of the meaning of technique has not always followed

a linear direction, especially because the extreme rapidity of the technological process has changed the initial definitions that had been given.

Traditionally, academics of the philosophy of law pointed out that technique meant a specialised knowledge, limited to one's object of its knowledge to a single object.

In this way, this one could only be functional in verifying the congruence of the means with respect to a specified objective¹, in which the law was assigned the task of taking the choices and responsibilities deriving from the results of the technical investigation. In other words, the relationship between law and technology was based on the primacy of the former over the latter, and this because it was believed that technology could not carry out the balancing between the various interests which is a role of politics².

The arrival of the new technologies has significantly undermined this structure, which had already begun to take shape; technology, correctly defined by Ellul as "the environment in which man moves"³, is so powerful that it

* Article submitted to double-blind peer review.

¹ M. Heidegger, *La questione della tecnica*, Firenze, GoWare, 2017, 262. According to J. Ellul, *Tecnica*, in *Enciclopedia giuridica Treccani (online)*, technique is always only a way or a set of ways, correlated to each other and characterised above all by the search for effectiveness.

² F. Salmoni, *Le norme tecniche*, Milano, Giuffrè, 2001, 19.

³ J. Ellul, *Tecnica (voce)*, in *Enciclopedia del Novecento*, Roma, Treccani, 1984. At the same time, U. Galimberti, *Psiche e techne. L'uomo nell'età della tecnica*,

raises many questions that significantly affect the relationship between technology and law.

Firstly, is it still relevant to conceive technology as a vehicle for achieving certain goals? Or has technology itself undergone such a metamorphosis that it has itself become a specific goal to be pursued?

Secondly, the questions regarding the new global dimension of techniques seem to be worthy of further investigation, which, consequently, would lead to the substantial uncontrollability that derives from them in relation to the rapid expansion⁴. Finally, a further profile that needs to be analysed concerns the possible survival of the neutral character that has historically distinguished the exercise of technology, especially due to the transition from the concept of technology as a vehicle to that of technology as an aim.

Concerning the first point, over time, technical resources have been constantly expanding, which means that human beings have no longer been able to dominate techniques. In this regard, the debate between Natalino Irti and Emanuele Severino was extremely interesting, as substantially divergent positions emerged regarding the relationship between law and technology.

The first author described the emergence of a so-called techno-law⁵, to be understood as a term to describe the situation of law today, in accordance with the relationship between two 'powers' (the legal one and the technical one).

The starting point just illustrated seems representative of the intention to rebuild the relationship between law and technology not in terms of subordination, but rather on a side of reciprocal necessity in the achievement of

the aim⁶. In other words, the author asserts that while the choice of purposes must be political, technique can only help in the choice of methods, establishing the conformity of the latter with the former⁷.

The conservative positions of a decisive role of the law are rejected by Emanuele Severino and by the subsequent philosophical studies that have focused on the topic, whose way of thinking was to affirm that the purpose of technology is found in the indefinite increase of the ability to achieve goals and satisfy needs⁸.

Particularly, it has been said that technology assumes as its aim the infinite growth of the capacity to realise purposes, it tends towards omnipotence, and the form of every specialised technological production is to produce something that contributes to the indefinite increase of the power of the scientific-technological system⁹.

This approach, as is evident, marks a real *de profundis* of politics and law rather than creating a tension between technology and

⁶ The relationship between law and technology is anticipated, in these terms, by A.G. Orofino, *Forme elettroniche e procedimenti amministrativi*, Bari, Cacucci, 2008, 9. The author asserts that if, on the one hand, law is forced to follow scientific developments, on the other hand, technique puts itself in a servant position with respect to law, offering a series of means to satisfy needs that have always characterized the legal system.

⁷ N. Irti, *Il diritto nell'età della tecnica*, 101. L. Mengoni, *Diritto e tecnica*, 2, agrees with Irti's conclusions on the prevalence of law to guide technology, but not with the premises that support the author's opinion. More recently, G. Finocchiaro, *Riflessioni su diritto e tecnica*, in *Il diritto dell'informazione e dell'informatica*, 2012, 838, agrees with the positivistic approach of the relationship between law and technique, claiming that technique must be hetero-directed, or otherwise controlled by politics.

⁸ N. Irti and E. Severino, *Dialogo su diritto e tecnica*, Roma-Bari, Laterza, 2001, 29, but previously E. Severino, *Il destino della tecnica*, Milano, 1998. U. Galimberti, *Psiche e techne*, 33, referring to Severino's thesis, sustains that the leading power of technique must be identified (also) in its quantitative growth, which has made the performance of action in the absence of technique unavoidable. In other words, if the technical instrument is the necessary condition for the achievement of an objective that cannot be realised without this instrument, the achievement of the technical instrument becomes the true objective to be pursued (p. 37). In the same terms, S. Civitarese Matteucci and L. Torchia, *La tecnificazione dell'amministrazione*, in S. Civitarese Matteucci and L. Torchia (eds.), *La tecnificazione*, in L. Ferrara and D. Sorace (eds.), *A 150 anni dall'unificazione amministrativa italiana*, Firenze, Firenze University Press, 2016.

⁹ N. Irti and E. Severino, *Dialogo su diritto e tecnica*, 30-32.

Milano, Feltrinelli, 2019, 34, who claims that purposes and ways are technically articulated and need technique to express themselves.

⁴ C. Videtta, *L'amministrazione della tecnica*, Napoli, Jovene, 2008, 3; The lack of balance in the globalization process is highlighted by S. Cassese, *Nel labirinto delle globalizzazioni*, in *Rivista trimestrale di diritto pubblico*, 2007, 921 ff.; But already in the past, S. Cassese had already made some reflections on the start of such trends: *Il diritto amministrativo globale: una introduzione*, in *Rivista trimestrale di diritto pubblico*, 2005, 331 ff., as well as *Lo spazio giuridico globale*, in *Rivista trimestrale di diritto pubblico*, 2002, 323 ff.; according to L. Mengoni, *Diritto e tecnica*, in *Rivista trimestrale di diritto processuale civile*, 2001, 1, political ideologies have weakened since territoriality is a characteristic of modern law, while technology and economics have developed in borderless spaces.

⁵ In these terms, see N. Irti, *Il diritto nell'età della tecnica*, Napoli, Editoriale Scientifica, 2007, 13.

law¹⁰. Indeed, politics and law are losing the main function, which is that of defining aims, since “it is no longer the aim that conditions [...] the acquisition of technical means, but it will be the increased availability of technical means that will unfold the range of any aim that can be achieved through them”¹¹.

In accordance with this approach, Heidegger’s perspective stands out. His vision leads to the conclusions that technology becomes, on the one hand, man’s destiny and, on the other hand, man’s risk. Destiny in the sense that man inevitably suffers its effects; risk, because it becomes a way of disclosure in order to forget human being¹².

These conclusions, from which it emerges that technology dominates the human being and entails the decadence of law and politics, deserve to be accepted with some reservations. But personally, they can open up a further theoretical reflection that takes account of the transformation in progress, and which concerns the decisive passage from technology to technocracy¹³.

One of the main studies on this point is certainly owed to Meynaud, who in an initial passage represents technique as decisions inspired by technical considerations that reveals a worry about efficiency, and which are not in themselves harmful since in many circumstances the rationality effort underlying such operations moves in a direction that improves social management¹⁴.

However, the transition from technology to technocracy - from which many problematic remarks arise - takes place when the former wants to dominate, as opposed to adapting to regulatory prescriptions. This produces a real shift of competences from the political apparatus, thus letting technocracy acquiring the ability to determine the choices of the

socially responsible¹⁵.

In these circumstances, it has been claimed that the emancipation of power from its traditional democratic attributes implies “the dispossession of the function of decision-making on public affairs by the experts”, with a transformation of political decision-making into the result of scientific calculations and predictions, completely devoid of any margin of discretion¹⁶.

A further critical profile of this relationship, following the assumed predominance of technology, concerns the human capacity to control its results. If it is true - as someone says - that the legal expert has to serve technology and the technological era needs the work of the jurist¹⁷, it is equally true that the only starting point can be found in the fact that the human being is not adequately prepared for these changes¹⁸.

The jurist has to deal with an important challenge, which is that of trying to adapt himself to the same speed with which the new technologies evolve¹⁹, and this road seems the only one to try to subvert the predominant trend of technology that is now in evidence. Anyway, the expectation is to do without it as soon as possible.

The general reflections just proposed seem helpful in trying to apply the theoretical approaches to recent trends that are increasingly expanding, in virtue of which the traditional administrative structure has to handle software and algorithms of various kinds.

In this sense, the reconstruction of the different conceptions of technology is useful only if no one takes the technique as the starting point of the investigation. In fact, the beginning point has to be the meaning it takes

¹⁰ L. Mengoni, *Diritto e tecnica*, 5, adopts a contrary approach, criticizing the development of an omnipotent conception of technology that is predominant over law, since it would lead to the transformation of the latter’s purpose from procedural legality to content-based truth.

¹¹ M. Heidegger, *La questione della tecnica*, 37.

¹² M. Heidegger, *La questione della tecnica*, 18.

¹³ Numerous studies have dealt with the historical reconstruction of technocratic theory. C.M. Radaelli, *Technocracy in the European Union*, London, Routledge, 1999; B. Burris, *Technocracy at work*, New York, 1993; J. Meynaud, *La tecnocrazia*, Roma-Bari, Laterza, 1966; D. Fisichella, *Tecnocrazia (voce)*, in N. Bobbio and N. Matteucci (eds.), *Dizionario di politica*, Torino, 1976, 1028-1030.

¹⁴ J. Meynaud, *La tecnocrazia*, 37.

¹⁵ J. Meynaud, *La tecnocrazia*, 60. The transformation from the dominion of man to the predominance of technology is also underlined by U. Galimberti, *Psiche e techne*, 345, who, referring to a process of moving of subjectivity, sustains that the binomial man-subject/technology-instrument is no longer there, since technology disposes of man as its functionary.

¹⁶ D. Fisichella, *Tecnocrazia*, 1028.

¹⁷ V. Frosini, *Il diritto nella società tecnologica*, Milano, Giuffrè, 1981, 256.

¹⁸ M. Heidegger, *La questione della tecnica*, 24-25.

¹⁹ But it is very clear to the doctrine how every technical achievement inevitably involves a process of learning and metabolising it, which inevitably implies a sort of externalisation to specialised subjects “with the consequent proliferation of technical bodies and bodies with a mixed composition in which experts work alongside politicians”. In this sense, C. Videtta, *L’amministrazione della tecnica*, 15-17.

in relation to the specific case to which it applies.

In other words, the technique will become a more efficient way to achieve the goal stated by politics and law, only if the administration will be able to adapt itself to the changing times and to the constant technical-scientific evolutions. On the contrary, if the public structures will not be equipped with a team of personnel endowed with a high level of technical know-how, it is reasonable to affirm that the speed of the evolution of techniques and technologies will make politics and law define the goal to be pursued, so that the predominance of technique will result in a predominance over politics.

The algorithm administration, in this sense, represents a preferential viewpoint for the analysis of the relationship between law and technology. After this brief introductory aside, it can be said that if it is true that administrative action must always be aimed at maximum efficiency - by virtue of an increasingly evident logic of the administrative result - it is also true that the indefectible attributions of administrative power (above all, discretion) cannot be sacrificed for the purposes of speed and presumed certainty that computer tools could guarantee²⁰.

2. The impact of new technologies in public administration: the “fourth phase” of computerisation and the introduction of automation in administrative law

Since the 1960s, new technologies have become part of the legal world, and the complexity and relevance of the topic can be clearly seen in the different terminologies used by academics to analyse the argument, such as juritechnics²¹, tele-administration²²,

²⁰ Recently, the debate has been reconstructed by C. Acocella, *Innovazione tecnologica e innovazione amministrativa. L'automazione delle decisioni nel quadro della riforma della p.a.*, in F. Liguori (eds.), *Il problema amministrativo. Aspetti di una trasformazione tentata*, Napoli, Editoriale scientifica, 2021, 185 ff.

²¹ V. Frosini, *La giuritecnica: problemi e proposte*, in *Amministrazione e politica*, 1976, 187 ff., defined juritechnics as “the ongoing production of operational methodologies in the field of law resulting from the application of technological procedures and tools”.

²² G. Duni, *Teleamministrazione*, in *Enciclopedia giuridica*, vol. XXX, Roma, Treccani, 1993, 2 ff., according to whom tele-administration is to be understood as telematic administration, and essentially refers to the activity, having full formal value, carried out by the public administration by means of terminals (or personal com-

giuscibernetics²³ and informatics²⁴.

These are terms with which the scholars have quantitatively and qualitatively analysed the relationship between law and new technologies, and with which subsequent academics have spoken of the technification of public administrations activities²⁵.

Before briefly analysing the developments of technologies in the field of public law, it is necessary to agree with the approach of those who have considered that the process of “technologization” of administrative activity is new in the dimension and pervasiveness of the phenomenon, but not in its nature²⁶.

The reason for these considerations finds its basis in the circumstance that just as the process of industrialisation transformed the agricultural society into an industrial society, so computerisation has transformed society into a sort of ‘infosphere’²⁷.

The evolution of computerisation within the public administration can be analysed, up to this point, in three phases²⁸.

puters with a prevalent function as terminals), connected to a data processing centre. This interpretation is shared by A. Usai, *Le proposte di automazione delle decisioni amministrative in un sistema di teleamministrazione*, in *Il diritto dell'informazione e dell'informatica*, 1993, 163 ff.

²³ M. Losano, *Giuscibernetica*, in R. Treves (ed.), *Nuovi sviluppi della sociologia del diritto*, Milano, Edizioni di Comunità, 1968, 307 ff., in which the author considers this term to include a new way of dealing with the problems arising between law and cybernetics.

²⁴ In these terms, V. Frosini, *Telematica e informatica giuridica*, in *Enciclopedia giuridica*, vol. XLIV, Treccani, Roma, 1992, argues that informatics is the science of the rational processing, in particular (notamment) by means of automatic machines, of information considered as the support of knowledge and communications in the technical, economic and social fields.

²⁵ S. Civitarese Matteucci and L. Torchia, *La tecnificazione dell'amministrazione*, 8 ff.

²⁶ S. Civitarese Matteucci and L. Torchia, *La tecnificazione dell'amministrazione*, 9.

²⁷ In these terms, C. Faralli, *Diritto, diritti e nuove tecnologie*, Napoli, Editoriale Scientifica, 2018, 7, which takes up the considerations offered by L. Floridi, *Infosfera. Filosofia e etica dell'informazione*, Torino, Giappichelli, 2009. But V. Bachelet had already expressed his views on this point in the past: V. Bachelet, *L'attività tecnica della pubblica amministrazione*, Milano, Giuffrè, 1967, as well as C. Marzuoli, *Potere amministrativo e valutazioni tecniche*, Milano, Giuffrè, 1985, which based his work on technical evaluations and the technical discretion.

²⁸ It has been talk about three phases of administrative informatics by G. Duni, *La teleamministrazione come terza fase della informatica amministrativa. Dalla “informazione automatica” sulle procedure burocratiche al procedimento in forma elettronica*, in G. Duni (ed.), *Dall'informatica amministrativa alla teleamministrazione*, Roma, Istituto Poligrafico e Zecca dello Stato,

In the first phase, which began in the 1950s, the process was characterised by a purely mechanised approach using punch cards; in the second phase electronic processors became widespread. The second phase was also characterised by parallel computerisation, in which the use of computers was envisaged as a pure support for traditional administrative procedures.

The third phase, on the other hand, was aimed at overcoming the duplication of documents first produced in paper format and then introduced into the computer, in order to generalise a new rule: administrative procedures were formalised directly through computers.

Let us take a step backwards. The second phase of automatic information, i.e. the current phase of information technology, has, like the first, produced undeniable benefits, especially in the fields of accounting, careers and salaries, but it has not brought about the productivity increase that could have been expected from the availability of technological progress.

The system downside was that computer scientists had always been conditioned by regulatory obstacles that were considered insuperable: in fact, academics talked of “computer delusion” caused by the gap between the innovations introduced in the public administration and the potential offered by the market²⁹.

The third phase of administrative informatics implied that administrative acts were no longer drawn up in paper format, but directly in the computer memory, and the abandonment of a paper support was defined in terms of “dematerialisation”.

The transition to the third phase involved the need to overcome psychological resistance arising from the habit of considering paper as the only possible model of administrative acts.

The paper document has certain advantages compared to the computer document, but these are not decisive. These advantages are essentially twofold: firstly, it is easier to read than reading it on a monitor; secondly, the

other important advantage of the paper document is that it can be checked by means of known and tested systems, which can lead to a genuine certificate of authenticity³⁰.

In fact, it was possible to make data available and to carry out the procedural interventions required by the rules through any connected and enabled terminal, exploiting the telematic network system, in which all terminals and computers must be inserted.

The three phases of computerisation of public administrations tacitly revealed how the legislator’s intention was to bring about a formal technicalisation process.

In particular, and referring again to the existing relationship between law and technique, the intention was to provide an assistance to public administrations, but the objective of efficiency certainly did not conflict with the citizens’ guarantees in the circumstances now analysed.

But even though the topic concerned the transition from a traditional administrative act, drawn up in paper format, to the electronic administrative act, it was clear that the inclusion of electronic processors in administrative procedures would have required an assessment of which procedures were “automatable”.

In fact, starting from the first research conducted by Predieri³¹ and the mentioned studies by Duni, there was already a discussion on the possibility of a “computer-compatible law”³², and theories had already been formulated regarding the compatibility of administrative acts in electronic form with binding and discretionary procedures, without reaching a univocal conclusion in doctrine and jurisprudence.

What can be said is that if the “third phase” of administrative computerisation has stopped at the elaboration of the computerised (or electronic) administrative act, evidently thirty years later a “fourth phase” of the computerisation process is underway.

This fourth phase, which is that of the automation of administrative procedures

1992, and later again G. Duni, *Teleamministrazione*, 2 ff.

²⁹ In this sense, E. Zaffaroni, *L’informatizzazione della pubblica amministrazione*, in *Il foro amministrativo*, 1996, 2517, who considers that the computerisation process has been conditioned both by the level of technology available and by the lack of a computer culture among public managers.

³⁰ On these aspects, for a complete analysis, see the monographic work by A.G. Orofino, *Forme elettroniche e procedimenti amministrativi*, 73 ff.

³¹ A. Predieri, *Gli elaboratori elettronici nell’amministrazione dello Stato*, Bologna, Il Mulino, 1971.

³² M. Losano, *Per un diritto compatibile con l’elaborazione elettronica*, in *Rivista trimestrale di diritto pubblico*, 1971, 1823 ff.

through the use of computer algorithms, is particularly problematic for two reasons: firstly, because it makes it necessary to balance the need for speed and efficiency of administrative action with the guarantees of citizens in administrative procedures; secondly, because the unprejudiced use of new technologies in administrative action could subvert the relationship between technology and law that was typical of the first “phases” of the computerisation of public administrations, leading to the predominance of technology and the decline of politics.

But this is a point that can only be analysed taking into account case law, practice and personnel organisation, and that is what we are going to do.

3. The algorithms’ classification and first harmonisations’ issues with administrative law rules

In the last years, the administrative structures have been considerably transformed. This is particularly manifest considering the pervasiveness³³ through which IT tools have become part of the available possibilities into administrative procedures.

As has been said, this change is due to attitudes that are presumed to slow down the administrative apparatus and can highlight some scopes’ transformations behind the administrative work. In fact, with regard to the consolidated perception of administration as an obstacle to the administrative activities performance³⁴, the introduction of new technologies has the declared purpose to privilege the efficiency, but as we shall see, there are many obstacles to this change.

In particular, the main questions to be discussed are the followings: are we really sure that we will be able to transpose the innovative modalities of proceduralisation and administrative decision-making (by resorting to computer algorithms) without compromising the guaranteed statute of the

administrative action principles outlined in Law no. 241 of 1990?³⁵ More importantly, are we certain that a massive recourse to algorithms would be directed to guarantee impartiality and good performance of administrative action, as well as increasing the certainty and predictability of administrative decisions?

There are numerous issues under discussion. It seems useful to understand whether the current relationship between law and technics should be considered in the sense of the predominance of the latter over the former, or whether the relationship is moving towards a balance of dialogue between these two “powers”.

The main concern is that the algorithmic administration dominance compared to the traditional administrative system would inevitably lead to a slow decline of the administration itself. For example, it would happen that participated inquiry would be compromised and the role of the procedure responsible would become superfluous.

Prior to engaging the investigation aimed to analyze some critical aspects arising from the relationship between the administration and automation, it seems useful to categorize the different algorithm types in order to understand which are actually applicable to administrative procedures.

Firstly, an algorithm can be defined as a set of consequential and predetermined operations allowing to solve a problem leading to a certain, useful and effective result. The algorithm must be able to solve countless cases, heterogeneous from each other, without limiting its action to a single case.

A first classification allows us to distinguish between deterministic and non-deterministic algorithms. We refer to the first ones when the same results are produced with the same input data. On the other hand, non-deterministic algorithms can produce different and valid results starting from the same input; the first problems in the relationship between administration and automation arise with regard to this specification, since it does not seem clear who (if the machine or the man) should carry out the interests’ balance and, consequently, who should determine the best

³³ Most recently, B. Romano, *Algoritmi al potere*, 2018, Torino, 10, who argues how algorithms have now acquired a boundless pervasiveness. Previously, some authors spoke of the pervasiveness of technique with regard to administrative power: S. Baccharini, *Giudice amministrativo e discrezionalità tecnica*, in *Diritto processuale amministrativo*, 2001, 80 ff.; A. Giusti, *Contributo allo studio di un concetto ancora indeterminato*, Napoli, Editoriale Scientifica, 2007, 45 ff.

³⁴ In these terms, refer to F. Fracchia, *L’amministrazione come ostacolo*, in *Il diritto dell’economia*, 2013, 357 ff.

³⁵ Also A.G. Orofino, *La trasparenza oltre la crisi*, Bari, Cacucci, 2020, 233, argues that the use of new means to perform public functions cannot affect the principles governing administrative action and the relationship between administration and citizens.

solution³⁶.

Based on these undiscussed definitions, it seems possible to argue that non-deterministic algorithms cannot be generally applied in administrative proceedings. As the use of algorithms is encouraged in order to efficiently achieve certain results, it must also be clarified that non-deterministic algorithms could lead to uncertain results, and do not even reach their purpose, which is the certainty of results.

It is even more evident that these computer tools are inadequate also considering self-learning algorithms, which are a kind of non-deterministic algorithms. In such cases, the machine autonomously learns the instructions and later on it is the algorithm itself that determines the parameters that must guide its action in order to achieve the result. It seems reasonable to express the worry that this mechanism will produce more problems than it intends to solve, since the human input, nowadays invoked mainly by the European Commission³⁷, would not be found even in the programming phase of the algorithm, that is only moment in which the administration can exercise discretionary power.

The machine learning model reveals the algorithm autonomy in relation to human action for two specific reasons: firstly, these learning instruments can lead to solutions that are not provided by the initial rules that men intended teaching the machine³⁸; secondly, the machine learning model could lead to conclusions that do not correspond to a causal process. If we were to consider the validity of such an evolutionary perspective, the problem of the predictability of the expected result would be matched by another troubling question, that is the algorithm accessibility³⁹.

However, legal certainty does not seem to be the only objective to be pursued by increasing the use of algorithmic administration; in fact, it has been highlighted

that neutrality and objectivity of decisions would positively influence the administration impartiality, improving human evaluation and reducing decision preconception.

Several critical remarks can be formulated with respect to these observations: firstly, numerical values do not indicate at all the neutrality of the administration⁴⁰, but faithfully reflect the transformation of discretionary choices made during the programming of the algorithm⁴¹. Moreover, it cannot be established if administration by algorithm constitutes the prototype of impartial administrative activity just because its activity is based on 'cold' criteria dictated by technology. The transformation of intelligible choices into mathematical operations hides the most dangerous risks with regard to the algorithm's opacity (which does not allow either the citizens, or even the administration in the case of the use of machine learning, to know and understand the meaning of the mathematical calculation), making the administrative action everything but impartial.

4. The judicial creation of the statute of administration by algorithms: the

⁴⁰ It is generally accepted that technique cannot be described as 'neutral'. In general terms, please refer to M. Heidegger, *La questione della tecnica*, 8; U. Galimberti, *Psiche e techne*, 34; previously, C. Schmitt, *L'epoca delle neutralizzazioni e delle spolitizzazioni*, in C. Schmitt (ed.), *Le categorie del 'politico'*, Bologna, 1974, 178 ff.; with regard to the relationship between neutrality and administrative activity, see G. Vesperini, *La Consob e l'informazione del mercato mobiliare*, Padova, 1993, 267; L. Torchia, *Il controllo pubblico della finanza privata*, Padova, 1992, 501 ff.; M. Manetti, *Poteri neutrali e Costituzione*, Milano, 1994; più recentemente, M.T.P. Caputi Jambrenghi, *La funzione amministrativa neutrale*, Bari, 2017, *passim*.

⁴¹ Two very recent judgments of the State Council also confirm the interpretation according to which the use of artificial intelligence instruments does not move in the direction of neutrality of administrative action but, rather, constitutes operations which are the result of precise choices. See Cons. Stato, Sec. VI, 13 december 2019, n. 8472, annotated by A. Coiante, *Il Giudice amministrativo delinea le regole del (nuovo) procedimento algoritmico? Riflessioni a margine di Cons. Stato, Sez. VI, n. 8472*, in F. Aperia Bella, A. Carbone and E. Zampetti (eds.), *Dialoghi di diritto amministrativo. Lavori del laboratorio di diritto amministrativo 2019*, Roma, Romatre-Press, 2020, 129 ff., and M. Timo, *Il procedimento di assunzione del personale scolastico al vaglio del Consiglio di Stato*, in *Giurisprudenza italiana*, 2020, 1191 ff. In the same terms, Cons. Stato, Sec. VI, 4 February 2020, n. 881, annotated by A.G. Orofino and G. Gallone, *L'intelligenza artificiale al servizio delle funzioni amministrative: profili problematici e spunti di riflessione*, in *Giurisprudenza italiana*, 2020, 1738 ff.

³⁶ For a reconstruction of the legal character of algorithms, see I. Alberti and R. Cavallo Perin, *Atti e procedimenti amministrativi digitali*, in D.U. Galetta and R. Cavallo Perin (eds.), *Il diritto dell'amministrazione digitale pubblica*, Torino, Giappichelli, 2020, 139 ff.

³⁷ Please refer to *White Paper on Artificial Intelligence - A European approach to excellence and trust*, in www.ec.europa.eu.

³⁸ G. Avanzini, *Decisioni amministrative e algoritmi informativi*, Napoli, Editoriale Scientifica, 2018, 9.

³⁹ In these terms, see Sul punto, S. Vernile, *Verso una decisione amministrativa algoritmica?*, in *Media Laws*, 27 May 2020, 6.

applicable procedures

The introduction of new technologies (in the form of computers) into administrative procedures has revitalised the attention of jurists both in private law (the issue of product liability developed on the basis of a computer algorithm is emblematic) and in public law.

Although the path that accompanied the creation of a statute of the administration by algorithms is connected to the most recent judicial production⁴², for about half a century the administrative automation theme has been developed by the most careful doctrine that has analysed the implications of technological development on administrative power⁴³.

Before analysing some recent rulings of the State Council, from which a worrying leap forward towards an indiscriminate use of artificial intelligence instruments in administrative procedures emerges, we should remember that in the past there were two trends: in the first case, software was used for strictly binding procedures (in which the automation function took on a decision-making value)⁴⁴; in the second case, automation also involved discretionary procedures, in which the software became a support function for the employee and, therefore, for improving the investigation activity⁴⁵.

The first judgments from administrative courts, following the entry into force of legislative decree no. 39 of 1993, also confirmed that a regime of total automation of the administrative decision could only be

applied in cases of serial acts, thus confirming the trend of the first doctrine, which had included the use of such IT instruments in the contest of binding activities.

Stepping backward from these developments, the so-called Giannini Report⁴⁶ already focused on the digitalisation of public administrations, although there were those who expressed doubts about the potential of computers for the purpose to be achieved⁴⁷. While the limitation of automation concerned its capacity to pursue the goal set by law, the relationship between law and technology was reversed: there was no need of any political legitimisation of the technical use, but it was essential that the technical instrument was appropriate to the set of principles governing administrative action⁴⁸.

The stability of this trend (both doctrinal and jurisprudential) has recently been confirmed by the decision of the State Council no. 2270 of 2019⁴⁹.

In this decision, the administrative judge considered that the usefulness of this operative method of managing the public interest is particularly visible with reference to serial procedures, characterised by the acquisition of certain and objectively verifiable data in which any discretionary appreciation is lacking.

According to the thesis in which use of automated administrative decision-making is made possible as there is no exercise of discretion after the algorithm has been programmed, the use of computer algorithms can characterise the decision-making model in cases of binding activity and technical evaluations of the administration.

Considering that the use of computer

⁴² Recently, it has been claimed that there is an emerging transition from the rule of law to the rule of technology: A. Simoncini, *Amministrazione digitale algoritmica. Il quadro costituzionale*, in D.U. Galetta and R. Cavallo Perin (eds.), *Il diritto dell'amministrazione digitale pubblica*, 16 ff.

⁴³ V. Buscema, *Discrezionalità amministrativa e reti neurali artificiali*, in *Il foro amministrativo*, 1993, 620 ff.; G. Duni (ed.), *Dall'informatica amministrativa alla teleamministrazione*, Roma, Istituto Poligrafico e Zecca dello Stato, 1992; A. Masucci, *L'atto amministrativo informatico. Primi lineamenti di una ricostruzione*, Napoli, Jovene, 1993; A. Natalini, *Sistemi informativi e procedimenti amministrativi*, in *Rivista trimestrale di diritto pubblico*, 1999, 449 ff.

⁴⁴ In these terms, see M. Losano, *Per un diritto compatibile con l'elaborazione elettronica*, 1827.

⁴⁵ Please refer to B. Selleri, *Gli atti amministrativi "in forma elettronica"*, in *Diritto e società*, 1982, 140-141. Previously, it was thought that the administration's power to collect information is necessary for the adoption of the decision to be taken, therefore it can have an external relevance. In these terms, R. Perez, *L'istruzione nel procedimento amministrativo*, in *Rivista trimestrale di diritto pubblico*, 1966, 649.

⁴⁶ We refer to the report written by M.S. Giannini, *Rapporto sui principali problemi dell'amministrazione dello Stato*, in *Foro italiano*, 1979, no. 5, 289 ff., which analyzed the main reforms that would have improve public administrations.

⁴⁷ T.A.R. Lazio, Sec. II, 19 giugno 1992, n. 1525, in *I Tar*, 1984, 2261.

⁴⁸ A.G. Orofino and R.G. Orofino, *L'automazione amministrativa: imputazione e responsabilità*, in *Giornale di diritto amministrativo*, 2005, 1307. The relationship between technique and law is analysed in order to understand how public interests affect technical instruments by F. Salvia, *Considerazioni su tecnica e interessi*, in *Diritto pubblico*, 2002, 604.

⁴⁹ For a commentary on the decision, please refer to A. Di Martino, *Intelligenza artificiale, garanzie dei private e decisioni amministrative: l'apporto umano è ancora necessario? Riflessioni a margine di Cons. Stato 8 aprile 2019, n. 2270*, in *Rivista giuridica europea*, 2019, 49 ff.

algorithms is already part of some proceedings - as in the procedures for the selection of the teaching staff - it may be concluded that artificial intelligence tools are applicable both in cases where the preliminary investigation leads to a single solution⁵⁰ and where the technique significantly affects the choice to be made. This solution seems to be comparable to the one adopted by the German legislator, who ruled (at the §35a of VwVfG) that an administrative act can only be automated if there are no discretionary evaluations by the administration⁵¹.

It seemed, therefore, that computer algorithms and artificial intelligence tools could not be applied in discretionary proceedings. Such instruments should have been used only when the predominant public interest had been predetermined and the proceedings did not allow any margin of choice between possible solutions⁵².

Notwithstanding the perplexities that have been expressed with regard to an openness to the use of computer algorithms in discretionary proceedings, two recent State Council's rulings controvert the sharpness of this trend⁵³. The administrative judge has held that there are no reasons of principle, or rather concrete reasons, to limit the use of algorithms

to binding rather than discretionary administrative activity, both of which are expressions of authoritative activity carried out in pursuing the public interest⁵⁴. In particular, if this interpretation were accepted, it would create several problems of application which would create problems in the relationship between the administrative function and computer algorithms, if they were not resolved through a solution opposing the recent trend followed by the State Council.

In particular, the last opinions expressed by the State Council raise several worries in relation to the use of non-deterministic algorithms in administrative procedures, whose application is discouraged due to the probable outcome of several choices valid, but without understanding who should evaluate the final opportunity for the decision.

The State Council's motivational framework seems lacking for two reasons: firstly, it seems to confuse administrative and technical discretion; secondly, it would not be so simple to understand what would be the "advantages offered" by the use of algorithms in discretionary procedures. But we will return to this question when we will examine the problems of motivation and citizens participation in automated procedures⁵⁵.

If this approach had been applied, the limits of software instruments would have been highlighted in those procedures in which the balancing between the public interest and the interests of private parties is the essential characteristic of the procedural inquiry.

5. The dual meaning of impartiality in algorithmic administration: efficiency and defensive administration.

After observing that the trend in

⁵⁰ With regard to the German legal system, there is who accept the full automation of administrative discretionary acts, but only when the discretion is reduced to zero (*Ermessenreduzierung auf Null*). In these terms E. Buoso, *Fully Automated Administrative Acts in the German Legal System*, in *European Review of Digital Administration & Law*, 2020, vol. 1, Issue 1-2, 20, refers to the German doctrine.

⁵¹ On this topic, see C. Fraenkel-Habeberle, *Fully Digitized Administrative Procedures in the German Legal System*, in *European Review of Digital Administration Law*, vol. 1, Issue 1-2, 2020, 105 ff., and E. Buoso, *Fully Automated Administrative Acts in the German Legal System*, 113 ff., which confirm the correctness of the trend that allows the use of algorithms only in cases of binding activity.

⁵² According to I. Martín Delgado, *Naturaleza, concepto y régimen jurídico de la actuación administrativa automatizada*, in *Revista de Administración Pública*, 2009, 180, 353 ff., informatic algorithms may be used in low-discretionary procedures and in cases of technical discretion. This opinion, however authoritative, cannot be accepted, since it is considered that so-called technical discretion has no profile to share with administrative discretion.

⁵³ A. Boix-Palop, *Algorithms as regulations: Considering Algorithms, when Used by the Public Administration for Decision-making, as Legal Norms in order to Guarantee the proper adoption of Administrative Decisions*, in *European Review of Digital Administration & Law*, vol. 1, Issue 1-2, 2020, 78, confirms that also discretionary decisions will soon part of this case law trend.

⁵⁴ Cons. Stato, Sec. VI, 13 December 2019, n. 8472; Cons. Stato, Sec. VI, 4 February 2020, n. 881. A. Cerrillo i Martínez, *Son fiables las decisiones de las Administraciones públicas adoptadas por algoritmos?*, in *European Review of Digital Administration & Law*, vol. 1, Issue 1-2, 2020, 24, argues that artificial intelligence can be used in proceedings characterised by a low level of discretion; in cases of proceedings characterised by a higher level of discretion, artificial intelligence can be a useful support for administrative decision-making. In the same terms, A. Masucci, *L'atto amministrativo informatico*, Napoli, Jovene 1993, 35, extends the application of computer algorithms to low-discretion and complex procedures.

⁵⁵ On this topic, see F. Costantino, *Public officials and the design of algorithms. Lessons from the Italian Experience*, in *European Review of Digital Administration & Law*, vol. 1, Issue 1-2, 2020, especially 153-154.

administrative case law is to extend the use of algorithms also to discretionary proceedings, it is important to verify if administration by algorithms is compatible with principles of general administrative action. However, it seems also useful to verify if the conventional notion of impartiality has been changed due to the transformation of the administration.

In order to resolve these doubts, it is necessary to start from an interpretation of some of the administrative judge's rulings.

In an initial phase, the decisions considered the human contribution essential in any administrative procedure, even in those which found the decision-making basis in the use of an algorithm⁵⁶. The later position, in which also the interpretation provided by the recent State Council's judgments moves, considers the absence of human intervention (and the allocation of the decision to an efficient computer) as a declination of the principles of impartiality and good performance of the public administration⁵⁷.

The principle of impartiality of public functionaries constitutes an essential element in the construction of algorithmic administration. The respect of the principle of impartiality by public officials has been one of the main pillars in the realization of algorithmic administration.

As repeatedly highlighted by case law⁵⁸,

⁵⁶ An exclusive use of algorithms in administrative decisions is excluded by T.A.R. Lazio, Rome, Sec. III-bis 10 September 2018, no. 9227, in www.giustizia-amministrativa.it.

Some scholars consider that there should be a compatibility between human input and algorithms rather than a substitution of machines to humans in order to make the progression of computer tools more compatible with the classical categories of administrative law. In this sense, L. Viola, *L'intelligenza artificiale nel procedimento e nel processo amministrativo: lo stato dell'arte*, in www.federalismi.it, 2018, 41. In the same sense, C. Coglianese and D. Lehr, *Transparency and Algorithmic Governance*, in *Administrative Law Review*, 2019, 1 ff.

⁵⁷ Cons. Stato, Sec. VI, 8 April 2019, n. 2270; Cons. Stato, Sec. VI, 13 December 2019; Cons. Stato, Sec. VI, 4 February 2020, n. 881. R. Ferrara, *Il giudice amministrativo e gli algoritmi. Note estemporanee a margine di un recente dibattito giurisprudenziale*, in *Diritto amministrativo*, 2019, 778, describes the algorithm as the "paradigmatic model of a dematerialised administration". According to M. Luciani, *La decisione giudiziaria*, in *Rivista dell'Associazione Italiana dei Costituzionalisti*, 2018, 874-875, the use of automated decisions should be considered preferable in case of an equivalence with human performance, in terms of both quality and effectiveness of judicial protection.

⁵⁸ Cons. Stato, Sec. VI, 8 April 2019, n. 2270; Cons. Stato, Sec. VI, 13 December 2019, n. 8472; Cons. Stato, Sec. VI, 4 February 2020, n. 881.

the absence of 'negligence or wilful misconduct' of public officials is strictly aimed to guarantee the (apparent) certainty of results and the (alleged) efficiency of administrative decisions.

It is reasonable to take a distance from this trend for two specific reasons: firstly, the acceptance of this kind of approach would underline the dangerous risk of a presumption of negligent or wilful conduct by public authorities in the exercise of their activities; secondly, the case law confirms the choice of eliminating the risk of non-transparent conduct by means of a path aimed at eliminating administrative discretion.

The paradoxical premise is to guarantee the same results in terms of efficiency and good performance of the administrative activity as those generated by an evaluation (discretionary) activity.

In other words, the State Council reasoning seems to constitute an alteration of the ordinary relationship between the physiological situations of active administration and those in which pathological profiles are highlighted for which, however, the system provides numerous and adequate means of protection⁵⁹.

As we have seen, therefore, the principle of impartiality is no more considered - as Weber stated - as an activity to be carried out *sine ira et studio* and without imposing favouritism, but it is declined as efficient activity of the public administration.

The latter consideration, from which emerges a presumption of responsibility of the public functionary, leads to a second criticism of the relationship between the principle of impartiality and automated decisions. Following a new academic trend, known as defensive administration⁶⁰, the principle of

⁵⁹ In these terms, please refer to A. Di Martino, *L'amministrazione per algoritmi ed i pericoli del cambiamento in atto*, in *Il Diritto dell'Economia*, 2020, 599.

⁶⁰ Concerning the issue of defensive administration, see G. Bottino, *La burocrazia difensiva e le responsabilità degli amministratori e dei dipendenti pubblici*, in *Analisi giuridica dell'economia*, 2020, 117 ff.; M. Lavatelli, *Responsabilità penale e burocrazia difensiva: effetti (o danni) collaterali di una valutazione sui generis della performance amministrativa*, presented at national Conference of the Italian Association of Professors of Administrative Law, 2019; C. Feliziani, *Quanto costa non decidere? A proposito delle conseguenze delle mancate o tardive decisioni della Pubblica amministrazione*, in *Il Diritto dell'Economia*, 2019, 155 ff.; S. Battini and F. De Carolis, *L'amministrazione si difende*, in *Rivista trimestrale di diritto pubblico*, 2019, 293 ff., especially 306 e 312.

impartiality is considered to be the ideal instrument for trying to limit the proliferation of corruption in the public sector.

Several considerations can be made on this matter. First of all, I agree with the opinions of those who consider that the prevention of corruptive practices prevails over the introduction of measures for implementing the principle of good administration. Secondly, as a consequence of what has just been said, the approach according to which the substitution of a human official by a machine constitutes a correct application of the principle of administrative impartiality cannot be accepted⁶¹.

With regard to the use of deterministic algorithms, especially if one accepts the case law ruling that extends the application of such computer tools to discretionary procedures, the administration would risk being transformed from an “expert apparatus that carries out its activities in the public interest”⁶² to a party that subordinates the administrative function to the pursuit of citizens’ legitimacy⁶³.

The current paradox of the administrative system - and the algorithmic administration constitutes an emblematic example - is that administrative credibility and the correct use of discretionary power now assume a reciprocal exclusionary relationship. The trend, as has been said, is to minimise the administrative evaluation spaces and to introduce a new way of administration which leads to decisions taken without human bias in

With particular reference to algorithmic administration, see S. Tranquilli, *Rapporto pubblico-privato nell’adozione e nel controllo della decisione amministrativa “robotica”*, in *Diritto e Società*, 2020, 293, who states that “if the implementation and management of the algorithm required excessive resources, the entirely theoretical result of greater efficiency compared to traditional methods of decision-making could in fact be lost”. On the contrary, there are those who, recently, have argued that the automated adoption of the act presents undeniable advantages in terms of efficiency, cost-effectiveness and effectiveness of the action: in these terms, see B. Raganelli, *Decisioni pubbliche e algoritmi: modelli alternativi di dialogo tra forme di intelligenza artificiale diverse nell’assunzione di decisioni amministrative*, in *Federalismi.it*, 2020, 250. The relationship between algorithms, defense administration and the organization of administrative staff is made by F. Costantino, *Public officials and the design of algorithms. Lessons from the Italian Experience*, 147.

⁶¹ A. Marra, *L’amministrazione imparziale*, Torino, Giappichelli, 2019, 183.

⁶² M. Clarich, *Manuale di diritto amministrativo*, Bologna, Il Mulino, 2019, 124.

⁶³ A. Marra, *L’amministrazione imparziale*, 185.

the questionable logic of administrative efficiency.

6. Automated decisions and democratic participation

State Council recent’s decisions suggest further critical issues regarding the guarantee of contradictory and, broadly speaking, the democratic participation in the administrative proceeding.

Apparently, it should be remarked that administrative proceedings, whose outcome is linked to the use of algorithms, seem to completely lack the dialogue between the public administration and citizens. Moreover, the interlocutory activity, whereby citizens can express their own opinions on the proceeding’s *an* and *quorum*, is not provided in the previous phase of the proceeding, and also the citizens’ collaborative contribution is not guaranteed in the investigation phase - which is entirely machine managed.

Such a prospect could suggest that an automated proceeding (also) lacking a participatory moment might lend to illegitimacy profiles deriving by the violation of procedural rules, but also to general principles of administrative laws’ violations due to lacking democratic legitimacy of the choice⁶⁴.

In this regard, it is worth asking what methods and instruments would allow citizen to proactively participate, taking in consideration that algorithms are used in proceedings that lack the discretionary power exercise.

In the author’s opinion, the debate on whether and how participate must be analysed differently from the past by those who have

⁶⁴ M.R. Spasiano, *Funzione amministrativa e legalità di risultato*, Napoli, Giappichelli, 2003, 211, after arguing that the role of democratic participation has gone as far as the “co-participation of citizens in the very process of shaping the public interest”, affirms that procedural hypothesis tending to limit participation do not seem legitimate, as they would cause obvious gaps in terms of knowledge of the facts that are functional to the decision. There are also those who consider democratic participation central to ensuring adequate disclosures on the involved interests. In this respect, see S. Tuccillo, *Contributo allo studio della funzione amministrativa come dovere*, Napoli, Editoriale Scientifica, 2016, 79-80. F. Giglioni and S. Lariccia, *Partecipazione dei cittadini all’attività amministrativa*, in *Enciclopedia giuridica*, 4, 2000, 943 ff., do not agree with the interpretation of jurisprudence that denies the usefulness of democratic participation in proceedings of a binding nature.

tried to unravel the knots of participation in complex administrative decisions⁶⁵.

This is because whereas in complex decisions the plurality of administrative proceeding's outcomes is discussed, in case of automated decisions, if the approach of allowing only deterministic algorithms is confirmed, the administration in one case will be directed by law, and in another case, by technical appreciation, with no further possibility of judgement.

In these circumstances, the citizens' participation could be developed not in the case of an already programmed algorithm⁶⁶, but the private individuals' preferences could be revealed when it is still possible to intervene in the determination phase, aiming at highlighting the proactive character of participation in the decisional process⁶⁷.

In case of automated decisions, the administration should guarantee at least a minimum level of private participation in the pre-investigation phase, with the aim of restoring the relationship between public power and private subjects⁶⁸.

⁶⁵ A more recent reconstruction on complex administrative decisions can be found in F. Cortese, *Decisioni amministrative complesse e hard cases*, in G. Arena and F. Cortese (eds.), *Per governare insieme: il federalismo come metodo. Verso nuove forme della democrazia*, Cedam, Padova, 2011, 267 ff.

⁶⁶ The central role of planning, also pointing out how the administration is the holder of a so-called "discrezionalità programmatica", is analysed in R. Dipace, *L'attività di programmazione come presupposto di decisioni amministrative*, in *Diritto e Società*, 2017, 647 ff.

⁶⁷ F. Ledda, *Problema amministrativo e partecipazione al procedimento*, in *Diritto amministrativo*, 1993, 135, regarding the investigation phase, considers that the term "communicate" is equivalent to "participate", in the sense of making common and known - to the involved individual or to the community - facts, situations or significant judgements regarding a problem that engages the public administration in the decision-making process. S. Civitarese Matteucci, *Umano troppo umano. Decisioni amministrative automatizzate e principio di legalità*, in *Diritto pubblico*, 2019, 40, discusses a "preliminary" automated decision that becomes final only following a contradictory debate with the private individual concerned. In general terms, A. Police, *La pre-determinazione delle decisioni amministrative*, Napoli, Edizioni Scientifiche Italiane, 1997, 19, in arguing that administrative choice does not belong to the monopoly of the bureaucratic element but is also - and above all - realised through the appeal to the participatory element, considers that the public interest arises from the composition between the several public interests and private and group interests as well.

⁶⁸ In the sense of a functional participation, on the one hand, to prevent conflicts between the administration and the citizen and, on the other hand, to restore the lack of transparency in the decisional processes, see among others, M. Calabrò, *La funzione giustiziale nella pubbli-*

ca As it emerged from the most recent pronouncements, if the administrative power should be placed in the phase of algorithm predetermination, the first interlocution moment with the community should be foreseen at the time of proceedings⁶⁹, prefiguring the abdication of administrative activity⁷⁰.

The arguments on the democratic participation's centrality might be further explored, especially if it accepted the idea that algorithms can be qualified as useful tools to manage certain relationships between private individuals.

Similarly, to what happens in the regulatory procedures of the so-called *Authorities*, the participation in the algorithmic proceedings would be functional to the achievement of two equally remarkable objectives.

On the one hand, the citizen's involvement could reduce the information asymmetries with the proceeding administration⁷¹, ensuring a certainly broader perspective with regard to the inclusion of the necessary inputs for the decision⁷²; on the other hand, considering a legal *vacuum* that justifies the performance of administrative activity through the use of algorithms, the democratic participation in these instruments of 'regulation' could fill the legality gap and, therefore, legitimate the administrative function exercised through the use of algorithms.

ca amministrazione, Torino, Giappichelli 2012, 38.

⁶⁹ F. Patroni Griffi, *La decisione robotica e il giudice amministrativo*, in www.giustizia-amministrativa.it, 20-19.

⁷⁰ In this respect, M.R. Spasiano, *La partecipazione al procedimento amministrativo quale fonte di legittimazione dell'esercizio del potere: un'ipotesi ricostruttiva*, in *Diritto amministrativo*, 2002, 283 ff. In fact, the author considers that there is a "sort of renunciation of the public administration" where the administration, in its function as curator of the community needs, does not exercise its role of guidance and supervision.

⁷¹ In a similar way, E. Carloni, *I principi della legalità algoritmica. Le decisioni automatizzate di fronte al giudice amministrativo*, in *Diritto amministrativo*, 2020, 302, who states that administrations should carry out tasks of prior illustration of the functioning of the algorithms whose use the public authorities intend to make, guaranteeing a proactive interlocution with experts and concerned subjects.

⁷² As F. Fracchia, *Manifestazioni di interesse del privato e procedimento amministrativo*, in *Diritto amministrativo*, 1996, 11 ff., from the viewpoint of the relevance of the manifestations to the object of the procedure. If the author made his own considerations as to the best solution, it can be argued on the basis of this that the enrichment of the cognitive material can be functional to a better choice of the inputs into the algorithm.

However, the debate on the necessity or not of private participation deserves further consideration, especially considering the decisions of the State Council that deemed computer algorithms applicable also to proceedings of a discretionary nature. On the one hand, it may share that the advantages of using digital tools for the administrative decision-making process by entrusting them to a software - in cases where the administration use of deterministic algorithms to carry out serial operations - on the other hand, the case law interpretation according to which the use of algorithms makes necessary the identification of new methods of communication between administrations and citizens⁷³.

Finally, it is possible to make a few remarks with regard to the entry into force of Article 1, co. 2-*bis*, of Law No. 241/1990, by which the national legislator introduced the principle of cooperation between the administration and citizens.

It has been said that participation is one of the main problematic profiles in the relationship between administration and automation, as it seems difficult to balance the common knowledge of citizens and the high technicality of algorithms.

If collaboration becomes a general principle of administrative action, and automated procedures clearly limit citizens' participation, any decision in which collaboration between administration and citizens is lacking will be illegitimate.

The necessity of regulating administration by algorithms, especially with regard to the way in which citizens can be involved in the determination of the algorithm, can no longer wait. Otherwise, the conflict between the administration and the citizens would be solved by the administrative judge⁷⁴. And this would appear paradoxical because it would be a tension arising from a double choice of the administration: to use a technical rule and to self-binding the administrative discretion in the procedural inquiry.

7. Algorithmic transparency: myth or reality?

Further problems of the relationship

⁷³ With regard to this, see A.G. Orofino, *La patologia dell'atto amministrativo elettronico: sindacato giurisdizionale e elementi di tutela*, in *Il Foro amministrativo (C.d.S.)*, 2002, 2256 ff.

between law and technique arise from the investigation of the algorithmic transparency. As emerges from the reconstruction of the case law, this is a debated topic due to the legal nature of software: the latter has been considered as an administrative act, as a general act, as an internal act and as a self-binding instrument⁷⁴.

There are thus several issues to be analysed, in so far as the legal nature of software can be used as a basis for understanding the level of intensity with which the technique affects the law (and citizens).

Let us therefore start with the first question: can software be qualified as an administrative measure? If yes, what would be the consequences?

A first solution is provided by judgment no. 3769/2017 of T.A.R. Lazio, which qualified software as an administrative measure capable of constituting, modifying and extinguishing individual legal situations⁷⁵. Leaving aside the incompatibilities with the theory of the administrative decisions, the first criticism that can be made is the following: can it be assumed that judges and citizens are able to know the results of the decision that fully depend on a technical instrument?

As though the administrative judge were aware of the criticism of this orientation, it has been affirmed that citizens can legitimately take advantage of the professional activity of a computer scientist competent in the area. As correctly argued by a recent academic opinion⁷⁶, this approach does not seem convincing for one specific reason: the burdens resulting from the assistance of an expert would be heavy both for the judge and for citizens. Consequently, if citizens were not in a position, even economically, to support such an opportunity, it would be possible to consider a denial of transparency and a violation of one of the general principles of administrative action.

⁷⁴ For an exhaustive reconstruction of the authors approaches, see A.G. Orofino, *The Implementation of the Transparency Principle in the Development of Electronic Administration*, in *European Review of Digital Administration & Law*, vol. 1, Issue 1-2, 2020, 153 ff.

⁷⁵ An interesting comment with regard to the judgment was made by I. Forgiione, *Il caso dell'accesso al software MIUR per l'assegnazione dei docenti*, in *Giornale di diritto amministrativo*, 2018, 647 ff.

⁷⁶ A.G. Orofino, *The Implementation of the Transparency Principle in the Development of Electronic Administration*, 155-156.

The latest case law deviates from the trend in which software is considered an administrative act and focuses more on the intelligibility of algorithms. The State Council, in fact, considers it necessary to translate the technical rule into a legal rule⁷⁷. The theme is analysed with extreme superficiality, since the latest rulings almost presume that the administration is able to carry out such operations. But it will be shown that this is a goal that is difficult to achieve effectively, both in cases where the administration makes use of deterministic algorithms, but especially when it uses of machine learning.

This issue is also important in order to reveal the usefulness of the distinction between the different types of algorithms: there would, in fact, be an obvious lack of transparency even for the public administration, especially where machine learning algorithms were used, since the administration would not be able to know the process that led to the decision⁷⁸.

It seems clear that algorithm transparency, in the sense of a concrete and effective knowledge of it, is thus considered the topic most frequently invoked, although with different emphases, by jurisprudence and doctrine, in order to legitimise the exercise of automated administrative action.

Frequently, the dynamics underlying the algorithm are not always easy to understand, not only by the citizen, who lacks the specific skills to translate the technical rule into a legal passage, but also by the administration. This is true both where the machine learning algorithm is preferred, and for the constant updating process of the software, which does not allow a long-term knowledge of the reasoning process of the machine, which also negatively impacts on the stability of the result⁷⁹.

In this context, there emerges - and this obviously raises many concerns - a progressive tension between the principle of impartiality and the principle of transparency, clearly unbalanced in favour of the former,

which should instead coexist in order to guarantee a due process, even if automated.

More specifically, although the most recent State Council's rulings consider necessary the algorithm cognition by the citizens, it is quite evident how the idea of transparent administration, due to the technical complexity underlying such computer tools, is sacrificed in favour of a presumed efficiency and administrative impartiality, which hides dangerous risks concerning the algorithms opacity.

This is confirmed by the interpretation of several parts of recent State Council's judgments, which reflect the gap between the publicity of the algorithm and the effective guarantee of transparency and intelligibility of algorithms.

First of all, it must be shared the opinion of those who consider that the interested party would not only fall into the opacity of the algorithm - since only knowability would be guaranteed, and not effective knowledge⁸⁰ - but especially the difficulty of understanding the decision-making process that generated the software⁸¹. The reason is that who intends to access the algorithm would have to trust on the technical interpretation of an expert and passively accept the results, and this seems contrary to the proactive nature of the principle of transparency.

If, as we have said, transparency of the act means knowing, understanding and controlling the act, are we sure that it is always possible to guarantee the transparency

⁸⁰ Please refer to G. Avanzini, *Decisioni amministrative*, 145. A research on the difference between publicity and transparency was carried out by G. Arena, *Trasparenza amministrativa (voce)*, in S. Cassese (ed.), *Dizionario di diritto pubblico*, Milano, 2006, 5945 ff., especially 5947-5948. According to the author, publicity is meant whenever the act is knowable, but publicity takes the form of transparency when, in addition to knowability - which is only potentially - real knowledge, understanding and control are ensured.

⁸¹ In this sense, J.V. Torrijos, *The legal guarantees of artificial intelligence in administrative activity: reflections and contributions from the viewpoint of Spanish administrative law and good administration requirements*, in *European Review of Digital Administration & Law*, vol. 1, Issue 1-2, 2020, 58, argues that "the effectiveness of legal safeguards necessarily involves modifying the legal framework on transparency and access to public sector information as well as extending the scope of its provisions. In particular, it would be quite appropriate to set up a more extensive right which includes not only awareness of the result of the software or the information system but also, and above all, the origin of the data used and the nature and scope of the processing carried out".

⁷⁷ Cons. Stato, Sec. VI, 8 April 2019, n. 2270; Cons. Stato, Sec. VI, 13 December 2019, n. 8472; Cons. Stato, Sec. VI, 4 February 2020, n. 881.

⁷⁸ This topic will be discussed in more detail in paragraph 8.

⁷⁹ In these terms, see S. Sassi, *Gli algoritmi nelle decisioni pubbliche tra trasparenza e responsabilità*, in *Analisi giuridica dell'economia*, 2019, 110.

of the algorithmic decision? Or are there cases in which there is an intrinsic opacity, which does not allow even the software processor to understand the results of the algorithm?

Personally, if comprehension of the algorithms' functioning is a particularly difficult objective to achieve - but one which would allow the reduction of the tension between the principle of impartiality and the principle of transparency - getting into the logical workings of the computer system would have little value for knowledge and understanding of the outputs.

In order to understand the algorithm, it is required to review the source code, to analyse the input data, to analyse the results statistically and, finally, to evaluate the sensitivity to the same source data. These are steps that would obviously not only fail to guarantee the effectiveness of the principle of transparency, but also seem difficult to conduct without the direct involvement of the system developers.

Following these case law interpretations and the first academic community approaches, it seems evident that the transparency of the algorithm is a myth and not reality.

8. How pervasive is technique in algorithmic administration? Concluding remarks starting from the controllability of algorithms.

Up to now, the present study has tried to disclose the several critical aspects inherent in a general and unprejudiced transition to algorithmic administration.

And it has been noted that it would be possible to classify these problems in two different ways: on the one hand, problems having a substantial nature, which include the applicability of algorithms also to discretionary procedures tout court; on the other hand, problems having a procedural nature, since, on the basis of what has been said until now, it would be problematic to guarantee the citizens participation in the automated procedure, as well as to ensure full knowledge of the logic underlying the algorithmic procedure.

The reasoning supporting the construction of the administration by algorithms, therefore, is personally weak, since there will never be an efficient and impartial decision if the procedure lacks certain fundamental stages, which are useful to improve the inquiry phase.

But there is more. These problems, in fact,

are compounded by another delicate aspect, which is that of the duty to reason the algorithmic decision and the controllability of the IT tool.

The case law reconstructions always consider necessary the reasoning of the decision based on the algorithm, both when algorithms apply to serial proceedings and when they apply to discretionary proceedings⁸².

The intensity of the argumentations is however different.

According to a first reconstruction, which considers the human contribution indispensable, the T.A.R. Lazio argues that violation of the duty of reasoning would lead to an infringement of the fundamental right of defence, constitutionally protected by art. 24, since it would compromise the possibility for the citizen to take legal action challenging the legal reasoning followed by the administration.

The State Council's subsequent approach seems to be more careful as it considers it possible that the administrative activity could be conducted without human input.

However, the administrative judge considers essential the translation of the technical rule into the legal rule, which is necessary to provide citizens and the judge with an adequate reasoning of the procedure followed by the machine. According to the State Council's approach, therefore, the reasoning is obligatory and must not constitute a simple reference to the algorithm, but must include the factual reasons and the legal elements that guided the administration to that particular decision.

Even in the case of algorithmic decision reasoning, an evident problem arises: are the administrations able to translate the technical rule into a legal rule? Moreover, due to the progressive development of the machine learning, which makes the intelligibility of the algorithm complicated even for designers, is it really possible to argue that all automated decisions are accompanied by a reasoning?⁸³

⁸² But it seems clear to J.-B. Auby, *Administrative Law Facing Digital Challenges*, in *European Review of Digital Administration & Law*, vol. 1, Issue 1-2, 2020, 8, that the normal functioning of algorithms is far from the causal reasoning on which decisions of private and public institutions are based.

⁸³ These doubts are also shared by D. Marongiu, *L'intelligenza artificiale "istituzionale": limiti (attuali) e potenzialità*, in *European Review of Digital Administration & Law*, vol. 1, Issue 1-2, 2020, 48.

The answer can only be negative⁸⁴.

However, if the perspective of a decision lacking reasoning were considered acceptable, this would have two negative consequences: firstly, there would emerge a deficit in the legitimate expectations of the citizen, who would not be able to be informed about the reasons underlying the administrative decision⁸⁵; secondly, this approach would constitute the definitive decline of the administrative need to legitimise the exercise of its power, since the democratic function of the reasons would not be capable of exposing the authoritative decision to public [as well as judicial] scrutiny⁸⁶.

Essentially, such algorithms are not constructed to answer the question of why a certain thing will happen, but only to indicate, as accurately as possible, the probability that it will happen⁸⁷.

It is now time to return to the main question of this paper, which concerns the balance between technique and law in algorithmic administration.

The use of algorithms, notwithstanding claims of benefits in terms of administrative efficiency, has become more frequent during a period in which citizens' trust in the administration is now minimal, in which one asks what is left of the public administration⁸⁸.

This is due to two reasons: on the one hand, the corruption that affects the impartial conduct of administrative activity; on the other hand, the excessive procedural burdens

that delay the decision-making process and affect the full satisfaction of the citizens claim.

There can be said with a good degree of certainty that automated procedures leave very few opportunities for public administration.

If it is considered that the administration is not internally organised in order to creating and implementing the algorithm, which will be the basis of the administrative decision, the production of the artificial intelligence instrument will have to be outsourced to a company⁸⁹.

Therefore, if the administration approaches the market because its own personnel is not able to know how the algorithm is implemented, at the same time the public employees will not be able to evaluate - and therefore control - the goodness of the artificial intelligence tool implemented.

This observation, however, could stimulate (or, perhaps, impose) a broader reflection on the centrality that the internal organisation of individual administrations is assuming today; in fact, as has recently been argued, the main problems that seem to be emerging are due to the limited scientific competence of staff⁹⁰, as well as to the progressive erosion of technical structures within the administration⁹¹.

However, although in the long term, the intention to include subjects with the technical skills to program the algorithm in the personnel organisation seems to be acceptable, a further problem remains in the background.

Indeed, it is essential to provide legal knowledge for programmers in order to enable experts to understand the legal consequences underlying entering incorrect data.

In conclusion, the lack of expertise and technical structures, as well as the consequent outsourcing of algorithm programming, seem to affect several aspects.

The first reason is that in an administrative

⁸⁴ This solution is confirmed by G. Gallone, *Public Administration and the Challenge of Contractual Automation. Notes on Smart Contracts*, in *European Review of Digital Administration & Law*, vol. 1, Issue 1-2, 2020, 193.

⁸⁵ M.C. Cavallaro and G. Smorto, *Decisione pubblica e responsabilità dell'amministrazione nella società dell'algoritmo*, in *Federalismi.it*, 2019, considered that, even admitting that the automated procedure may lead to a correct outcome, the shadow of a measure without reasons remains, "with serious prejudice to the protection expectations of private individuals, since in the case under consideration the administrative decision has a significant impact on the working life of teachers". In these terms, see also V. Brigante, *Evolving pathways of administrative decisions*, Napoli, Editoriale Scientifica, 2020.

⁸⁶ A. Romano Tassone, *Motivazione dei provvedimenti e sindacato giurisdizionale*, Milano, Giuffrè, 1987, 70.

⁸⁷ A. Simoncini, *Profili costituzionali della amministrazione algoritmica*, in *Rivista trimestrale di diritto pubblico*, 2019, 1182.

⁸⁸ Confirming the relevance of the topic, that is the progressive exhaustion of administrative powers, see the number of the *Rivista trimestrale di diritto pubblico*, 2019, 1.

⁸⁹ On the lack of technical expertise within the organisation of administrative staff, see L. Saltari, *Che resta delle strutture tecniche nell'amministrazione pubblica italiana?*, in *Rivista trimestrale di diritto pubblico*, 2019, 249 ff.

⁹⁰ A. Averardi and L.F. San Mauro, *Ragionare per reclutare: la logica nei (e dei) concorsi pubblici*, in *www.diritto-amministrativo.org*, 17.

⁹¹ Recently, F. Savo Amodio, *Il genio civile. La competenza perduta?*, in *www.diritto-amministrativo.org*; G. Melis, *La fuga dall'amministrazione. Ascesa e declino dei tecnici nell'amministrazione dell'Italia Unità*, and L. Fiorentino, *I corpi tecnici delle amministrazioni: problemi attuali*, both in *Rivista trimestrale di diritto pubblico*, 2013, respectively 469 ff., and 479 ff.

procedure, even if it is automated, the non-exercise of the power of control always conflicts with the idea of good administration. According to a recent interpretation by academics, this would require the creation of independent bodies of administrative control which would have the function of monitoring and approving the algorithms as codes and their general mode of operation, as well as guaranteeing their proper functioning⁹².

The second is that without such an independent body and, more generally, an administration that is able to control the computer algorithm output, it could be argued that decisions are made in violation of the principle of legality. This is not because the use of algorithms in the public sector is not regulated by law⁹³, but because the lack of a control phase would (indirectly) allow the private societies to substitute the public administration in the exercise of administrative power.

In other words, if the algorithm is not controllable either by the public administration or by citizens, it will prevail over the political-administrative assessments that are the responsibility of the public administration. If these are the current premises, we can peacefully claim that technique prevails over law in algorithmic administration.

The digitalization process, therefore, is not enough, but a personnel turnover process will be necessary to bring the administration in line with the time and speed at which technology and algorithms evolve⁹⁴.

⁹² In these terms, I.M. Delgado, *Automazione, intelligenza artificiale e pubblica amministrazione: vecchie categorie concettuali per nuovi problemi?*, in *Le istituzioni del federalismo*, 2019, 643 ff.

⁹³ On this topic, see A. Celotto, *Come regolare gli algoritmi. Il difficile bilanciamento fra scienza, etica e diritto*, in *Analisi giuridica dell'economia*, 2019, 47 ff.

⁹⁴ F. Liguori, *Il problema amministrativo in trent'anni di fermento normativo: dalla legge sul procedimento del 1990 al decreto semplificazioni del 2020. Una introduzione*, in F. Liguori (ed.), *Il problema amministrativo*, 34, argues, in general terms, that the administrative problem cannot be solved by eliminating the administration, its institutional role, its technical competence and its impartiality, with an unacceptable compromise of the rationality of the design that reserves the definition of guidelines to politics and their implementation to the bureaucracy.