Going beyond the black box: the socio-legal-materiality of administrative law in the making at the Belgian Council of State

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1. Introduction

Digital transformation today lies at the heart of most decision-makers' concerns (Trabizi et al., 2019). The Justice System is no exception. In the last twenty years, various authors have been conceiving digitisation as an answer to various legal issues, such as access to justice (Salmerón-Manzano, 2021) and decision-making consistency (Araujo et al., 2020). Despite the various discourses emphasising on their opacity and their incomprehensible functioning, algorithms and technology in general are believed to make legal information more accessible and connect legal aid sources with those who need it, providing people with quick, affordable and equitable solutions to legal problems. Furthermore, digital technologies could also lighten judges and court clerks' workload through the automation of their working process (Mason, 1978). Improving courts' efficiency is of most importance as governments seek ways of meeting escalating demands for services with increasingly limited resources. This is even more important as court performance has been at the centre of public debate and is considered as a key indicator to improve access to law and justice (Frade *et al.*, 2020). The use of algorithmic technologies in courts is supposed to increase courts' management speed and efficiency. The use of technologies in the field of justice is widely internationally supported, especially by the European Union. In its 2020 report, the European Commission for the efficiency of justice highlights the fact that deployment of digital tools and their appropriate use contribute to improve the transparency, efficiency, accessibility and quality of judicial services. The council of Europe claims that digitalization has taken its place in European judicial systems, where organizations are traditionally working with papers (legal texts, files, court records, etc.) (Council of Europe, 2020). The European Commission also insists on the fact that digital technologies "must be tools or means to improve the administration of justice, to facilitate the access of litigants to the courts and to reinforce the guarantees offered by Article 6 of the ECHR, namely access to justice, impartiality, independence of the judge, fairness and reasonable time for proceedings". Moreover, including new algorithmic technologies in the justice system can fasten the diffusion of information while increasing its centralization and

transparency; and facilitate information exchange between stakeholders[1]. Digitization and digitalization would therefore increase the confidence of every citizen in the judicial institution (Eridman & De Leval 2004), while designing tomorrows' courts and lawyers (Susskind, 2013 & 2019).

Despite this favourable international context, digital and algorithmic technologies remain under-exploited in the Belgian judicial system. Based on statistics collected in 2018 by the European Commission for the Efficiency of Justice, Belgium came in thirty-fifth place out of a panel of 47 countries evaluated, in the overall level of involvement of technologies for the functioning of the judiciary system[2]. However, some spontaneous and decentralized initiatives emerged over the years (Mougenot, 2015). The Council of State was a pioneering jurisdiction in this "modernization" movement (Dubois & Pelssers, 2022). Its digital infrastructure constitutes a remarkable and exceptional element in the Belgian Judicial landscape. Indeed, together with the Constitutional Court, these are the only courts to publish their decisions online. Although the revision of article 149 of the Constitution, adopted in 2019[3], plans to extend this publication to all Belgian jurisdictions, the Council of State has taken up this fold since 2007, thanks to a structured database that can be consulted on its website, via the *juriDict* application. Furthermore, the online file submission process, called *eProAdmin*, is also available for nearly 8 years now via the Council of State's website, while most Belgian courts do not yet offer the possibility of an electronic procedure.

To shape the digital infrastructure of the Council of State, several technical and organizational choices have been made. Which legal and technical concerns have inspired these choices? What does these concerns consist of and how does they materialize in the daily operations carried out at the Council of State? How did humans, technology and organization interweave to develop these tools? And how did this complex interplay help the actors tackling the legal matters at hand?

Drawing on both Actor-Network Theory (Callon, 1986) and on Kang and Kendall (2019) *legal materiality* analysis, this paper investigates how algorithmic technologies have been designed

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[1] An essential tool for maintaining accessibility to courts and tribunals at a time when budgetary savings are forcing court clerks to offer less availability to litigants, see 'Digitalisation of justice in the European Union A toolbox of opportunities', COM (2020) 710 final, https://ec.europa.eu/info/sites/info/files/communication_digitalisation_en.pdf (accessed 8 June 2022).
[2] CEPEJ, « Systèmes judiciaires européens. Rapport d'évaluation de la CEPEJ », 2018, p. 100, disponible via https://rm.coe.int/rapport-evaluation-partie-1-francais/16809fc056
[3] April 22, 2019 revision of Article 149 of the Constitution with respect to publicitý of judgments and rulings, M.B., May 2, 2019, p. 42442.

and developed at the Belgian Council of State. More precisely, it covers a case study to show the articulation between the "social", the "material" and the "legal" in the creation of two tools: *juriDict* and *eProadmin*. It aims to demonstrates how materiality – like algorithms, applications, platforms, software, screens, legal texts, etc. – and human actors – like documentalists, court clerks, lawyers, computer scientists, magistrates, etc. – can influence organizing processes and working practices (D'Adderio & Pollock, 2020), facilitate access to law and justice, and reinforce the consistency of decision-making practices.

Postulating that social and material dynamics are mutually constituted, we aim to shed light on the concrete modalities of this imbrication. To do so, we will place at the heart of our analysis the practices and objects that shape, legitimize and materialize *juriDict* and *eProadmin*, and make them irreversible. In this perspective, human actors remain central insofar as they are making sense of various means (or *materials*) through which associations are (de-) or (re-) composed. Then, everyday life at the Council of State can be considered as an ongoing composition of humans' and non-humans' participation towards legal concerns (*matters*). This is why technologies require to be studied as actants or, rather, as socio-legal-and-material agencies. Accounting for this constitutive entanglement illuminates how technical objects take part in the long chain of (non-)humans actors creating, diffusing, institutionalizing, and redefining administrative law in the making (Latour, 2002).

This case study is based on comprehensive and grounded research. It primarily draws on a dozen confidential and anonymous in-depth interviews. These have been conducted between March and November 2021 with documentalists, court clerks, lawyers, computer scientists, and magistrates who were – and still are – directly concerned by the design, the development, and the use of *juriDict* and *eProadmin*. Two exploratory interviews have also been conducted with researchers having general expertise on the subject. Four semi-structured interviews were conducted with actors from the Council of State particularly involved in the digitization process; and four semi-structured interviews were performed with lawyers specialized in administrative matters. We also analysed various documents, including the Council of State's website, parliamentary reports, legal sources (laws and ministerial orders), ministerial letters and annual reports of activity.

2. From algorithmic opacity to algorithmic *materiality*

In recent years, a lot of research has been devoted to the articulation of algorithmic technologies and law (Dubois & Schoenaers, 2019; Fersini et al., 2013; Katz et al., 2017; Larsson, 2019; Licoppe & Dumoulin, 2019). A first set of research has been studying the design of algorithmic technologies and their impact on work and organizations (Jussupow et al., 2021; Wölker & Powell, 2021; Meske et al., 2021). Among these studies, legal critiques have been focussing on algorithms' opacity and their incomprehensible functioning, considering them as "black boxes" (Pasquale 2015; Burrell 2016) that can only be analysed regarding their inputs and outputs. Without enforceable mechanisms to ensure transparency or review of used data, algorithmic decisions remain out of reach for researchers and governance mechanisms (Caplan et al., 2018; Eubanks 2017). Academic focus on algorithms' opacity has shown how humans are becoming powerless data derivatives while algorithms are becoming increasingly powerful (Neyland, 2019; Christin, 2020). However, these studies have sometimes been reinforcing a rather strict distinction between technology and humans.

It is in reaction to this artificial distinction that actor-network theory (ANT) approaches have been helping to disclose the complex socio-material agency composing algorithms. Algorithmic technologies can also be understood as a sociotechnical assemblage (Suchman, 2007) involving a suite of human and non-humans' actors and meanings (Christin, 2020; Seaver 2017; Lange et al., 2018), transforming professional expertise and practices (Suchman, 2007; Prom & Zago, 2015). Various methodological propositions drawing on ANT make it possible to account for the biographies of algorithms and their adaptations in various contexts (Lange et al., 2018; Christin, 2020). These studies underline how humans remain central as they build, implement, and use such technologies on a daily basis. They are therefore considered as part of the algorithmic loop (Christin, 2020). Bruno Latour's notion of hybrid actants makes it clear that agency is not inherently either human or non-human; it is rather an emerging composition produced by humans and non-humans, or "of their reciprocal engagement or co-variation as moments in the unfolding of an actor-network" (Pottage, 2012, p. 160). Far from considering the algorithm as a mechanical and autonomous process, these authors postulate that human action lies at the very heart of algorithms' design, development and use. Accounting for this distributed agency is necessary, especially in the field of law and legal tech (Dubois, 2021), at a time when forward-looking and techno-determinist discourses prophesy a predictive (Katz, 2012; Queudot & Meurs, 2018), disintermediated (Maharg, 2016),

robotic (van den Branden, 2019), and dematerialized (Sommer & Azoula, 2013; Fersini, Archetti, & Messina, 2013) justice.

A third stream of research focuses more on *legal-materiality* rather than on *socio-materiality* (Kang & Kendall 2019; Pottage, 2012; Rabeharisoa & Paterson, 2022), broadening and deepening our understanding of law. While socio-material scholars include technologies into a socio-material loop, they are often still treating law as a black box: they are reading it into objects (papers, books, screens, etc.) without considering these objects as *legal materials* designed to deliberate over *legal 'matters of concern'* (Latour, 2002). Moreover, according to Kang & Kendall (2019), some of the legal transpositions of actor network theory adopt a reductive view of matters and materials, considering them as obvious and self-explanatory without accounting for the complex processes, made of specific knowledge, practices and techniques (for example, with image and sound). To overcome these limits, they advance a research program to analyse how different entities intertwine and shape "legal materiality". To this end, they propose to distinguish between "legal matters" and "legal materials": *"[D]istinguishing between matters (problematisations) and materials (their constitutive parts) helps to illuminate law's actual workings by identifying and analysing the composition and forms that enact legality, instead of confining critique to a general level which leaves "law" intact as an abstract black box"* (Kang & Kendall, 2019: 1).

On the one hand, "legal materials" contribute to the making of legal meaning. They may be physical or intangible, and they include techniques, modes of representation, bureaucratic arrangements, and physical spaces in which legal matters are being discussed. A legal material may be a physical object, such as a book or a text, but also an oral testimony or a technique, such as a syllogism, rules of procedure, or a legal means. On the other hand, "legal matters" are never tactile and tangible but rather conceptual (issues, problematizations or concerns). For example, a matter of law is not land, but rather territory, jurisdiction, property or sovereignty. Without legal materials, matters are not intelligible to law. Building upon these distinctions between legal matters and legal materials, Kang and Kendall (2019) propose an understanding of law as a specific mode of producing matters of concern through enlisting materials. These authors define Legal materiality as *"the process or composition by which matters turn into legal concerns or problematisations through materials, such as texts, forms, formats, techniques, and physical as well as immaterial entities"* (idem: 4)

In this paper, we propose an articulation of socio-materiality and legal-materiality. Borrowing from both stream of research, we want to account for the many contingents, negotiated and normative choices that make algorithms exist. We provide an empirical analysis showing the constitutive entanglement between the practices of problematization and those of legal materialization that are carried out at the Belgian Council of State. We account for the multiple decisions and deliberations shaping the design, development, and use of *juriDict* and *eProAdmin*, and translating the Council of State's concern for a set of legal principles: access to justice, equality before the law, fairly uniform and consistent decision-making practice, respect of the "rule of law". This perspective illuminates how various socio-legal materials (human and non-human entities), and in particular algorithms, concretely contribute to the making of administrative law (Latour, 2002), i.e. redefine the practices, routines, knowledge and interactions collecting and composing legal matters of concerns.

3. The administrative law in the making

In the next sections we will argue that the power of algorithms derives from their association of lawyers, IT experts, script languages, computers and other entities held together by practice and process, and legal concerns. In this perspective, algorithms' agency is always located in a concrete situation where they act and are being enacted (Neyland & Möllers, 2017). Consequently, we will show that it is necessary to recognize the situated feature of algorithmic systems. They "come to make sense through their situatedness, wherein distinct components are designed and re-worked and come together with rules, people, processes and specific kinds of relationships" (Neyland & Möllers, 2017: 18). Hence, algorithms could never exist in a social vacuum. As will be demonstrated, the development, circulation and use of algorithmic systems always take place within social networks made of individual and collective actors, objects and instruments, institutions and norms, interests and problems. As soon as algorithms are introduced in any context, "existing arrangements are reconfigured as people position themselves with respect to algorithms and seek to enrol them in their institutionalized ways of doing things." (Christin, 2020).

3.1. Setting the scene: the specific case of the Belgian Council of State

The Belgian Council of State exists since 1948 and was created by the legislator's will to provide all natural or legal persons with a recourse against irregular administrative acts which

would have caused them prejudice[4]. It is both a consultative and a jurisdictional institution. Consultative because it has a function of advisory body in the legislative and regulatory matters (Van Damme, 2001). Jurisdictional because the Council of State is competent to suspend and annul administrative acts reverse to the rules of law in force. Based on the tasks assigned, the Council of State is divided into two sections: a legislative section and an administrative litigation section. Each section is composed of the Advisors' office, the Auditor's Office – which includes Auditors and legal attachés –, the Coordination Office, the Registry and an administrative service – staff and organization, management and budget/logistics and ICT[5]. This paper focuses on two devices developed within the litigation section.

JuriDict and *eProAdmin* are both the main digital tools of the Council of State. The first one aims to make the case law publicly available. The second one aims to facilitate the file submission process. The Council of State's digitalization begins in 1996 with the creation of a first internal database - called Bucobu – containing all the available Belgian legislation. In 2007, the *juriDict* database was created. Drawing on a keyword tree structure, it contains the points of law included in the Francophone judgments and Flemish judgments. These "points of law" are "a summary of one of the teachings of a judgment or order by the Council of State" (Joassart, 2008: 291). This *juriDict* database publishes the decisions taken by the litigation section in a publicly accessible manner via the Council of State's website. This open and free tool has become essential in administrative law insofar as it provides systematic access to judgments handed down in French (since 17 July 1996) and in Flemish (since 1 January 2000). The second tool – *eProAdmin* – appeared a few years later. In 2011, the Dutch-speaking Bar Association (OVB) and the French- and German-speaking Bar Association (Avocats.be) asked to automate the litigation procedures. As a result, an electronic procedure was launched in 2014, facilitating lawyers' administrative work. Both tools are used extensively by the small community of Belgian lawyers specialized in administrative law, all well aware that they enjoy a rare privilege. Both projects were designed and carried out in-house, independently, and without additional means. This efficient autonomy is a source of pride for the Council members.

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[4] http://www.raadvst-consetat.be/?action=doc&doc=694

[5] Art. 69 of the coordinated Laws of the Council of State of 12 January 1973: http://www.raadvst-consetat.be/?action=doc&doc=950

3.2. From legal matters to technical choices

The design of these two tools was first driven by legal concerns, such as quick and systematic access to law (via *juriDict*) and justice (via *eProadmin*). As stated in the Royal Decree on the publication of the judgments of the Council of State of 7 July 1997, the *JuriDict* database "also aims, and this is a fundamental objective, to enable the population, i.e. the litigants, to effectively get acquainted with the case law of the Council of State: this is not without reason as it is a right guaranteed by the Constitution"[6]. Moreover, another legal concern was considered: improve uniformity of judgements, case-law consistency, and equality before the law, by assisting judicial practitioners in their decision-making process.

Hence, both *juriDict* and *eProadmin* were developed to answer these legal concerns. However, the technical development of these tools raised new questions and legal matters, requiring technical decisions to be taken. For example, does the use of open source or proprietary tools affect the independence of the Council of State, especially towards private actors and services? How should the rule of law be preserved, in this context? Which programming languages and algorithmic systems should be chosen, and why?

Here, a distinction should be made between open source and proprietary software. The first one allows its users to use the program out of charge, which can be copied, modified and distributed freely. The second one does not grant these rights to users. These rights belong to private companies and justify the paid use of these products. In the case of *juriDict* and *eProadmin*, the digital infrastructure is characterized by a modular architecture, composed of an internal database, a back-end part and the interface. Simple and open-source programming and scripting languages have been used. These languages and scripts contribute to formalize the algorithms automating the import of data and their publication via an interface adapted to the users' needs.

These specific technical decisions are the materialization of specific matters of concern. First, an attractive feature of algorithms lies in the fact that they offer the possibility of operationalizing the available knowledge concerning a problem to be solved or a task to be carried out, and thus to define an automatic system of resolution or assistance to the resolution (Bachimont, 1996). The chosen technical material had to make the information clear and

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[6] 7 JULY 1997. — Royal Decree concerning the publication of the judgements of the Council of State: http://reflex.raadvst-consetat.be/reflex/pdf/Mbbs/1997/08/08/34084.pdf

structured, while guaranteeing a stable and viable tool. Second, some previously mentioned legal problematizations were also at stake: the specific technical choices that have been made did not threaten the Council's independence from private actors, like software publishers, legal publishers or IT solutions providers.

Accounting for the conception and development of these algorithms reveals the many contingents, negotiated and normative choices shaping both digital tools. Some of these choices are based on a high degree of expertise, such as the preference for the ERLANG[7] language, developed by NOKIA company, and used in the design of *eProadmin*. Such decisions are driven by organizational, technical, and legal matters of concerns, and have been translated into the algorithms, delegating many competences to the technical device (Akrich, 1991). Hence, this socio-material device constitutes a compromise, or rather a succession of compromises, fiercely negotiated between human and non-human actors and legal concerns. Accordingly, the algorithms included in these applications are as social as the practices of development and using are material (Orlikowski, 2007).

3.3. The situatedness of algorithms: Giving normative force to material entities

The effectiveness of a tool, however, is not automatically determined by its technical development. Algorithms are enacted by human practices and embedded in organizing processes. When a citizen or a lawyer wants to submit a file to the Council of State, he or she has the choice between the electronic (*eProAdmin*) or the paper procedure. Either way, the registry receives the file, as it serves as a central point of contact, and hand it over to the competent auditor and legal attaché. The latter reads the case, selects some keywords, and use it to search for documentation on *juriDict*. He or she wants to find similar cases to help him or her draft a report that will assist the Advisors towards a decision-making in the current case solving process. Once the judgement has been pronounced, it is first reinterred into *eProAdmin*, so that the user can access the decision. Second, the legal attaché will "dissect and break down the decisions into small pieces, each of which contains a single idea, a single point of law," says a legal attaché. "The identified points of law are then "defactualized", that means that we try to describe them independently of their singularity - Mr. X, in such and such an administration of such and such a city... - to bring out the principles of law," she continues. The

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[7] Programming language used in order to build massively scalable soft real-time systems with high availability requirements.

result is called "a summary", and consists of a *purified* legal matter, ready to ben inscribed into the *juriDict* material database below the appropriate keywords. In other words, it is possible to consult a particular point of law without having to read the judgment as a whole or know how many points of law were involved in the judgment in question. Because each legal case is unique, legal attachés must select the elements that seem relevant to them according to singular contextual data at a time. To do this, they must use intuition (Hutcheson, 1929) to grasp the ambiguity of norms and to extract their meaning. They also rely on rules of logic – like syllogism – and language (Dubois & Schoenaers, 2019) to interpret legal texts and the acts of knowledge that underlie them (Licoppe & Dumoulin, 2019). In this sense, a sum of legal expertise is embedded in the digital application *juriDict*. Hence, communication from users to the Council of State is digitalized through *eProAdmin*, while digital communication from the Council of State to the public takes place thanks to both *eProAdmin* and *juriDict*. The complementarity of these tools and the human action enabling their development and daily maintenance make them particularly effective.

The "points of law" are of particular interest here as they result from the working and *making* of the legal attachés. The process at hand first consists in extracting the points of law from the judgment and then in restructuring them in an electronic way. This process does not mean that the legal attachés strip them of their materiality (or "dematerialize" them) in order to integrate them into a new legal category. Rather, this working process ensures their grasping by the law so that these points of law are ready to enter the judicial arenas. By the way, the law confers on them the power to constrain what will be held as case law within the Council of State (Rabeharisoa & Paterson, 2022). This is how the points of law acquire and exercise their legal force in the material world. Hence, the notion of "dematerialization" of the law, while often used (Bernelin, 2021; Mougenot, 2015), is no less misleading. Indeed, it is much more a re-materialization (Latour, 2002) involving new mediators, like supports, languages, designers, developers, matters, and users populating and densifying the network of access to law and justice.

3.4. Guaranteeing technical and legal security: keyword management

The "points of law" represent and structure the jurisdiction's case law. They therefore require some organizing processes and routines to ensure their quality. First, inclusion and exclusion criteria had to be defined to determine which decisions would be made publicly available. Specifically, as some internal data were not meant to be published, a specific database was

created to house only the points of law corresponding to the inclusion criteria defined. Indeed, some judgments are considered irrelevant and are therefore excluded if they do not contain a point of law, if there is no need to adjudicate, if it concerns isolated cases, or if the judgment is a "repetition" of other judgments. Numerous meetings have been and are still being held on a regular basis to ensure the consistency of the selection criteria. The goal is to include varied and relevant cases, while ensuring the readability of the database, and an easy access to law.

This process of structuring data and legal principles revolves around a question that is essential to legal thinking: how to classify this information?

> « This is the most intellectual approach because I must ask myself how the person searching the database will want to find a particular principle. As the database is composed of a tree-based system made of keywords, the attachés will look for the most appropriate keyword to introduce the point of law in question. They click on the keyword which is then integrated into the selected passage » (Madam Z, legal attaché)

Since each legal attaché is responsible for introducing his or her own summaries, a "keyword commission" was created within the Council of State. Composed of one magistrate, the legal attachés' coordinator and one documentalist, their quarterly coordination meetings allow them to consolidate rigorous selection and classification methods, as well as to stabilize certain principles for drafting summaries. To do this, the procedure provides the attachés with a "framework" for their work. The procedure starts with the introduction of the request, then the reasons for the introduction of the request, and the circumstances in which the request was made, etc. Sometimes a point of law is integrated with reference to several keywords. In the same way, a judgment often contains several points of law, each one having to be classified under the appropriate (and often different) keyword(s). The judgment in question will then be found several times in the database. As time goes by, the number of judgments increases, and new cases appear. To integrate them into the database, new keywords are created and added to the existing tree structure. To prevent the database from becoming too large, the keyword commission regulates the keywords' population in order to keep a consistent structure. This is how legal norms (matters) are being translated and inscribed in a techno-legal infrastructure (legal materiality).

The process of inscribing legal and technical matters into socio-material entities (keywords) is interesting. It is through the mediation of these "reference materials" (Lezaun, 2012) against

which points of law are compared that the decisions rendered by the Council of State acquire and exercise their legal force in the material world. The enlistment of keywords into the law requires some practices of standardization and structuration that are carried out by the commission. These practices ensure that any point of law contained in a particular sub-item in *juriDict* is the result of the analysis of identical keywords, independently of the legal attaché who encoded the points of law (Rabeharisoa & Paterson, 2022). By standardizing the list of keywords, the commission ensures that the points of law do not suffer from uncontrolled variations. This standardization guarantees the proper functioning of the decision-making process. In turn, this ensures citizens' protection against any potential inequality due to the heterogeneity and scalability of technologies and know-how. This dynamic instils a principle that Rabeharisoa & Paterson (2022) call "*the "principle of technical security"* by analogy with the *"principle of legal security*"" (p. 30).

We have shown that points of law and keywords are made through socio-legal materials that ensure that legal information is always selected and used in a systematic way. Then, the implementation and successive revisions of the keywords are being carried out by a commission aiming to guarantee an easy use of *JuriDict* and *eProadmin*, while facing the tools' evolution and heterogeneity, as well as the increasing number of cases. It is through these operations that the Council of State ensures citizens' equality before the technology and before the law, while making uniform and consistent decisions.

4. Closing the loop: impact on user's practices and legal concerns

After having shown the complex entanglement that allowed the design, development and maintenance of *juriDict* and *eProadmin*, we will now focus on their use. How do these tools facilitate and take part to the making – reading, writing, and processing – of law?

By allowing searching and analysing similarities between cases to be reviewed and those already adjudicated (Licoppe & Dumoulin, 2019), *juriDict* appears to be a real decision-making tool for legal attachés but also for its external users. Administrative lawyers use it regularly. The publication and accessibility of updated and recent case law in an instantaneous manner increases the access to law and the quality of justice. A legal officer stated that lawyers' requests became even better since they can access the database. A lawyer who knew Belgian administrative law before the arrival of *juriDict* also has an opinion on the matter:

"The work can be more qualitative because we have structured, updated and easily accessible sources" (Mr. Z, lawyer).

The emergence of this database has changed lawyers' practices. Before *juriDict* appeared, the case law of the Council of State was not easy to find, and it was published in very long deadlines. Even for the lawyers who could afford expensive journals subscriptions. The judgments were available in huge binders, without any structure, and with a long delay. Lawyers had to read and catalogue it themselves if they wanted to use the information. With the advent of *juriDict*, the Council of State has, in fact, made this information more accessible and material, as a lawyer explains:

"Now, if I am looking for a very specific point in the database, I get my result within fifteen minutes. We have everything without really moving and I think it is a great working tool" (Mr. Y, lawyer).

While *juriDict* helps to simplify lawyers' administrative work. It also allows the Council of State to make fairly uniform and consistent decisions, while respecting the particularities of each individual case. The legal attachés systematically use it at two key moments of a procedure: first, when they receive the case file, in order to document the orientation to be favoured while writing their report; second, when they feed the database by integrating the points of law identified in the judgment. The more the attachés work with this tool, the more they consolidate its structure. Their work feeds juriDict, which then feeds their work and so on. Using it systematically makes *juriDict* a valuable decision support tool. Each new entry in the databases will then facilitate research, analysis, reading and writing practices. By contributing to *juriDict*, the members of the Council of State, themselves, are making the law... and they are making it publicly.

Concerning the electronic procedure in the Litigation Section, the platform seems to greatly facilitate the lawyers' administrative work, and consequently, reshapes their practices and "the way" they are working.

"At the time, when I had to submit an appeal to the Council of State, it was always a fairly heavy load for the secretariat. We had to send packages of 20 to 30 cm of paper. And since, anyway, we are always a little bit short with the deadlines it was sometimes a little bit stressful for the secretary to finalize the sending. In contrast, it's all done quite

easily now, almost without the intervention of the secretaries. I do it on the screen, so once the file is digitized, it's just a about a few clicks, so we don't have to print anything or do anything else. It saves a lot of unnecessary work and unnecessary delays. You don't have to run to the post office anymore to avoid missing the closing (...) so it has become much easier to manage." (Mr. Z, lawyer).

The working practices and routines of lawyers are being reshaped by the easy access to law (*juriDict*) and justice (*eProadmin*). The organizing practices also evolved. The legal attachés using *juriDict* are constantly improving the tool and the – making of – law. The registry has also seen its work being transformed. Courts' clerks now communicate electronically with the stakeholders. This new aspect generated new tasks (scanning of judgments, electronic signature, etc.) that led to new organizing processes and routines. This highlights the socio-legal-materiality of the Council of State Litigation section, but also how they can reshape its organization. The interdependencies between lawyers, computer scientists, documentalists and legal matters makes it possible to grasp from below two tools composing the legal-technological infrastructure of this jurisdiction. This is where the reciprocal entanglement of the material (the application), the social (the human work upstream and downstream of the applications) and the legal matters (access to justice and law, and coherent decision-making process) lies (Orlikowski, 2007). Moreover, this is where the socio-legal-materiality of administrative law in the making lies, in part.

5. Discussing the socio-materiality of legal-materiality

This paper suggests to combine Actor-Network theory (Callon, 1986) and *legal materiality* frameworks to account for the techno-legal infrastructure of the Council of State and explore the several (legal) matters of concerns that drive it. We therefore carefully considered the practices through which *juriDict* and *eProadmin* have been designed, developed, and are being used in particular contexts (Law, 2013). Understanding these practices and their effects requires to empirically investigate both tools' socio-technical infrastructure and the interactions between human and non-human actors, legal matters and socio-technical processes that make them up and allow their constant redefinition (Sullivan, 2022).

We argue that algorithms can explicitly be enrolled (Callon, 1986) in the design and development of the digital tools. Rather than focusing on algorithmic opacity, we made the choice to study how social, technical and legal matters of concerns emerge, solidify and evolve

over time. This perspective of constitutive entanglement avoids both techno-centric (Barley, 1988; Kling, 1991) and humano-centric (Button, 1993; Berg, 1997) points of view in order to account for the multiple decisions and deliberations that contribute to the design, development, and use of *juriDict* and *eProAdmin*.

Socio-legal-and-material entanglements require to decenter from law to depict how legal practices are reconfigured by socio-material relations. Hence, our analysis took 'materiality' at starting point rather than 'law' (Pottage, 2012). Precisely, the articulation of socio-materiality and *legal materiality* makes it possible to bring socio-materiality in the understanding of law.

Examining the making of law in a situated socio-material perspective also plays an important role in the co-production and maintenance of expert knowledge. Expert knowledge can no longer be considered as independent from its socio-material context, nor from the materiality of legal concerns. "Rather, expert knowledge is situated within material conditions that co-produce its 'practices' of expertise" (Graham *et al*., 2017: 501). At the Belgian Council of State, the legal attachés carry out concrete expertise practices to structure and interpret the digital tools and the legal cases they have to deal with. The *juriDict* keyword tree structure and its standardization make the "keyword commission" a kind of antechamber of the Council of State. This is where an easy, coherent and reliable access to points of law, and hence, case law, is prepared, tested and discussed between the parties (Rabeharisoa & Paterson, 2022).

The shift towards a consciousness where human and non-human actors are always embodied, situated and materially-related means that the socio-material agency cannot be ignored or set aside. Its consideration is necessary to illuminate the process by which materials confer legality to matters that become legal concerns and vice versa. Hence, legal materiality should not be considered without its inevitable socio-material aspect.

6. Conclusion

JuriDict and *eProadmin* have become indispensable for the proper functioning of the Council of State, but also in terms of access to law and justice, and they ensure fair and equitable judgements. These two tools are even considered the "showcase" of the jurisdiction. Our study accounts for the socio-legal-materiality of these tools.

Indeed, the interdependencies between computer scientist, legal attachés, the registry, algorithms, and legal concerns make it possible to grasp from below the socio-techno-legal infrastructure that allows *juriDict* and *eProAdmin* to exist. The expertise of all these different actors has made it possible to design and develop the tools. Regarding *juriDict*, the qualification and filtering of information as well as its organization and codification via keywords allow users to "find their way" in the immensity of the database (Libmann, 2007). Regarding *eProAdmin*, human action is also at the center of the design and use of the algorithms that make up the tool, through open-source technical choices. This is where the reciprocal entanglement of the material (the application) and the social (the human work upstream and downstream of the application) lies (Orlikowski, 2007).

The case study of the Council of State also sheds light on the relationship between this socio-materiality and the juridicity (Piana *et al.,* 2018) of the objects and operations mobilized in the development of *juriDict* and *eProadmin*. In particular, the points of law and the keywords included in *juriDict* aim, precisely, at capturing the relationship between socio-materiality and juridicity, since their creation involves meticulous technical and legal work based on repeated standardization and structuring. This work will allow the points of law to be considered as case law and enter the legal arena by making them technically and legally objectifiable and comparable (Rabeharisoa & Paterson, 2022).

We have also highlighted that the work undertaken by the Council of State consists in making *juriDict* and *eProadmin* materialize a set of legal principles. More precisely, we have considered these tools as devices for analysing how the materialization of legal concerns takes place. These legal concerns intervene at different times of the process. First, the idea of developing these tools was driven by preoccupations of access to law and justice and coherence of decision-making. Second, during the technical development of these tools, some other legal issues appeared: maintaining the rule of law and guaranteeing the independence of the Council of State from private actors. Technical choices were made accordingly. Last but not least, the organizational functioning of selecting points of law and structuring the database with specific keywords also represent a materialization of the initially formulated legal concerns: it ensures an easy, coherent and reliable use of the tools to promote easier access to the procedure and to case law, which, in turn, makes the decision-making process fairer and more efficient. Hence, our analysis shows that the principles of law are embedded in practices, materials and operations between human and non-human actors, like algorithms. These actors are themselves

being redefined, and they evolve by and with these principles of law. This brings us back to the situated-ness of algorithms: how they behave and what effect they accomplish is closely tied to the situation in which they operate and which they help to produce, which consist of an interweave of peoples, processes, materials and matters of concern that are constantly designed and transformed (Neyland & Möllers, 2017).

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