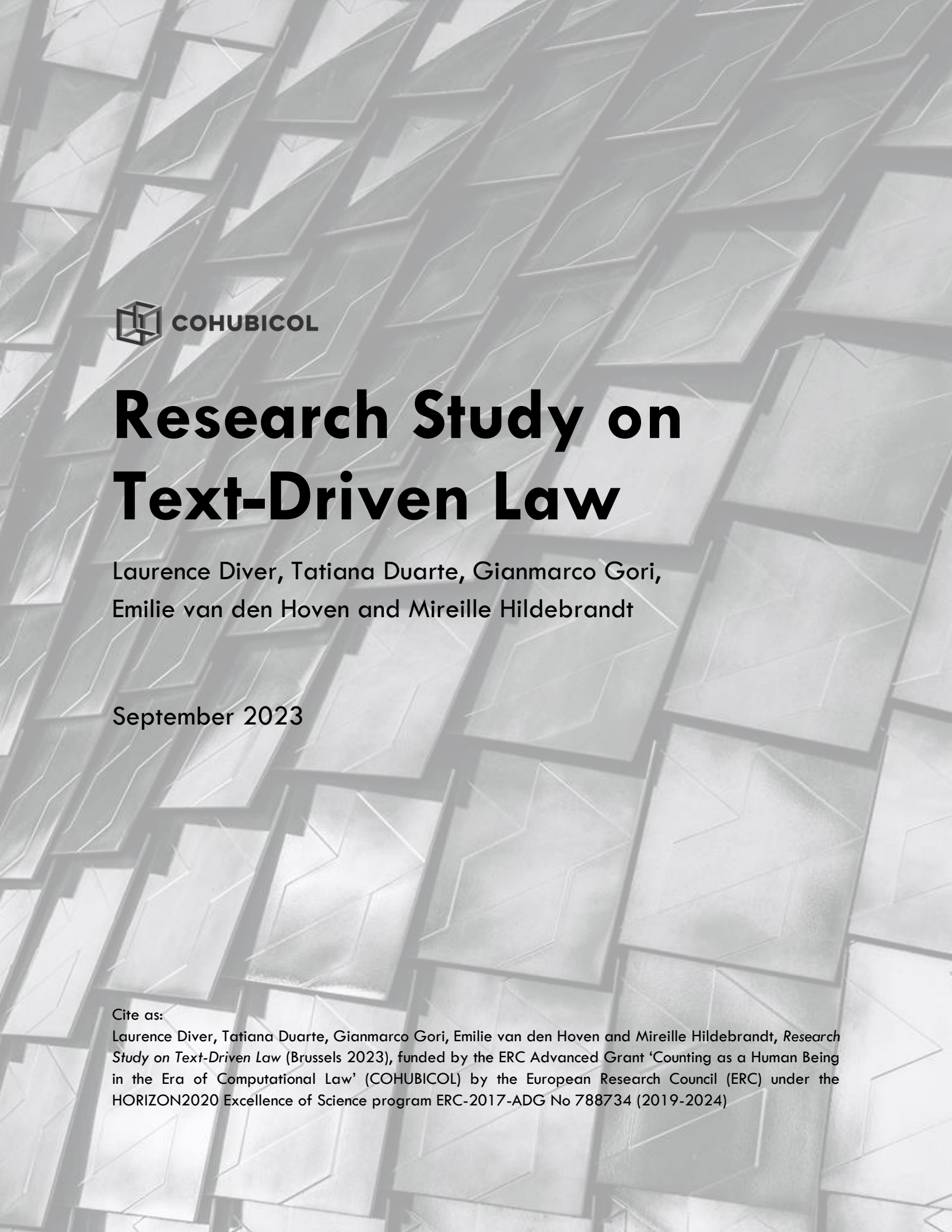

COHUBICOL

Research Study on Text-Driven Law

Laurence Diver, Tatiana Duarte, Gianmarco Gori,
Emilie van den Hoven and Mireille Hildebrandt

September 2023

Cite as:
Laurence Diver, Tatiana Duarte, Gianmarco Gori, Emilie van den Hoven and Mireille Hildebrandt, *Research Study on Text-Driven Law* (Brussels 2023), funded by the ERC Advanced Grant 'Counting as a Human Being in the Era of Computational Law' (COHUBICOL) by the European Research Council (ERC) under the HORIZON2020 Excellence of Science program ERC-2017-ADG No 788734 (2019-2024)

Table of contents

Cover photo by Evan Provan

1 Introduction: the mode of existence of text-driven positive law

Mireille Hildebrandt

1.1 Introduction[1]

In this chapter I outline the text-driven nature of what lawyers call 'positive law' and how this aligns with core elements of the Rule of Law and with the kind of legal protection it offers. This is followed by a brief mapping of the data- and code-driven 'law' that is the focus of the COHUBICOL project, summed up under the heading of 'computational law'.

I highlight why the kind of legal protection that is inherent in the Rule of Law cannot be taken for granted in the era of computational law (without implying it could be taken for granted in the era of text-driven law). Legal protection might, however, be articulated in data- or code-driven architectures, to the extent that we learn to anchor 'legal protection' in law's new mode of existence. I thus end this chapter by making the case for legal protection 'by design'.

The study of law can be seen as the learning of a new language

In 1992 Rene Foqué held his Inaugural Lecture under the title: 'The Space of the Law',[2] a scholarly treatise on the nature and importance of positive law and the foundational architecture of constitutional democracy. Foqué emphasised that law is a language and that the study of law can be seen as the learning of a new language, taking note of the interplay between the given language that lawyers and legal scholars tap into and their use of that language. Language and language use define each other, while leaving room for productive and confusing misunderstandings. As a result, scientific research into law is first and foremost an argumentative practise, taking note that legal argumentation is not about (mono)logical reasoning, but about arguing points of view in the face of their (potential) contestation. The contestability of law is created by the ambiguity or 'open texture' inherent in legal concepts.[3] Together with 't Hart, Foqué developed the idea of 'contrafactual conceptualisation',[4] asserting that conceptualisation in natural language is inherently unstable and, precisely because of this, has a subversive kernel that enables us to push back against whatever interpretation affects us. In this chapter I will clarify that the artificial nature of spoken and written speech makes our speech acts inherently contestable.[5]

---

[1] This introduction is an adapted and extended version of M. Hildebrandt, *Computationeel tegenspel: de nieuwe ruimte van het recht* 211 *Actioma* 12–19 (2020).

[2] R. Foqué, *De ruimte van het recht* (1992).

[3] About 'open texture' H.L.A. Hart, *The Concept of Law* (1994). About the importance of ambiguity for agonism in democracy, see S. Kruks, *Simone de Beauvoir and the Politics of Ambiguity* (2012).

[4] R. Foqué & A.C. 't Hart, *Instrumentaliteit en rechtsbescherming* (1990).

[5] About the fact that man is artificial by nature, see H. Plessner & J. M. Bernstein, *Levels of Organic Life and the Human: An Introduction to Philosophical Anthropology* (2019); M. Hildebrandt, 'The Artificial Intelligence of European Union Law' (2020) 21 *German Law Journal* 74–79.

The uncertainty associated with the use of natural language calls for the stabilisation of meaning (although not for its petrification). One way our society enacts this stabilisation is by issuing and enforcing positive ('posited') law. This provides legal certainty because the enactment provides closure after an adversarial debate, either when the legislator enacts legislation or when a court settles a dispute. With such dispute resolution, the judge in point of fact decides the meaning of the law for the case at hand and thus also for subsequent cases. After all, the administration of justice cannot be arbitrary. In his Inaugural Lecture Foqué referred to the Dutch legal historian Schönfeld,[6] who came to the conclusion that Montesquieu's famous qualification of the judge as 'bouche de la loi' (*iudex lex loqui*) must be understood against the background of an even older maxime that designated the king rather than the judge as 'bouche de la loi' (*rex lex loqui*). Montesquieu's aim was to prevent both the legislature and public administration from playing the role of judge in their own case: in the final instance neither the legislature nor public administration decide on the legal effect conferred by the law. This is in the hands of an independent third party,[7] that is, nevertheless, bound by prior case law and relevant legislation. In this way, the legislature and the administration are placed under the Rule of Law and democracy is saved from the tyranny of the majority.

> The double play of contestability and predictability is thus at the heart of the Rule of Law

The realm of text-based law is created by a complex interplay of speech acts[8] that create a web of legal powers that in turn instantiates specific institutional checks and balances that sustain a system of countervailing powers. This safeguards the contestability of legal decision making, while simultaneously providing for closure (which must, however, be justified in the light of the arguments put forward in relation to the positive law that is in force).[9] The double play of contestability and predictability is thus at the heart of the Rule of Law.

According to Waldron, this is the meaning of legal certainty,[10] which should not be reduced to internal consistency but concerns the argumentative nature of such consistency. At the same time, legal certainty concerns what Dworkin has called the 'integrity' of the law,[11] which entails more and maybe even less than logical consistency. To count as 'legal' rather than 'logical' consistency, the integrity of the law must be grounded in its moral foundations, or what Dworkin addressed as the

> Ambiguity is not a 'bug' but a 'feature'; it offers the possibility of constantly tuning in to changing circumstances and insights

[6] K.M. Schönfeld, 'Rex, Lex et Judex: Montesquieu and la bouche de la loi revisited' (2008) 4 *European Constitutional Law Review* 274–301.

[7] D. Salas, *Du procès pénal. Eléments pour une théorie interdisciplinaire du procès* (1992).

[8] N. MacCormick, *Institutions of Law: An Essay in Legal Theory* (2007); H. van der Kaaij and J. Hage, 'Rechtshandelingen als taalhandelingen' (2012) 10 *Ars Aequi* 712-19.

[9] J. Waldron, 'The rule of law and the importance of procedure', (2011) 50 *Nomos* 3–31.

[10] Ibid.

[11] R. Dworkin, *Law's Empire* (1991).

'implied philosophy of the law' (think of the interplay of freedom, equality, predictability, justice and effective protection thereof). The internal consistency of the law demands continuous reconstitution and new arguments due to the changing circumstances in which the law operates, while simultaneously the moral principles that ground the law may require reinterpretation in the light of those new circumstances. Fortunately, positive law – precisely because of the multi-interpretability of natural language – is fundamentally adaptive. And not in the sense of arbitrarily 'bending any way the wind is blowing', but in the sense of an iterant refinement of legal norms with a view to a fair and reliable administration of justice. Ambiguity, therefore, is not a 'bug' but a 'feature'; it offers the possibility of constantly tuning in to changing circumstances and insights.

1.2 Principles of the Rule of Law as affordances of written legal speech acts

> There are these two young fish swimming along and they happen to meet an older fish swimming the other way, who nods at them and says 'Morning, boys. How's the water?' And the two young fish swim on for a bit, and then eventually one of them looks over at the other and goes 'What the hell is water?'[12]

It is not obvious for lawyers to be aware of the fact that modern positive law is anchored in the 'technology of text'.[13] The idea of text being a technology, let alone the idea that the nature of law is co-determined by that technology will not easily occur to those who depend on what 'text' affords; text is to lawyers what water is to fish. Though, as lawyers, we are 'naturally' familiar with the idea of 'law as text', the extent to which positive law depends on the technology of text makes it hard to even acknowledge its performative effects. Text-based legality is our default, the lens through which we navigate the world it creates. The best way to grasp this is to remind ourselves that even unwritten law (principles, custom) depends on written law.

In a society without the script there is no unwritten law, but rather a normativity grounded in an orality that cannot be reduced to 'the unwritten'. The latter necessarily assumes an infrastructure of reading and writing *informed by* and *informing* a new type of speech, whose impact is now reconfigured in relation to text. For instance, as indicated above, the ambiguity of natural language is not without consequences, whether part of an oral or a text-based normativity, but those consequences are reinforced by the 'sedimentation' of language in written or printed text.[14] Text, as externalised speech, takes on a life of its own, emancipating itself, as it were, from the tutelage of its author. This becomes possible and even imperative where the reader 'internalises' the externalised speech acts of an author who is absent.[15] The author, then, can no longer correct the way in which the reader 'understands' the text, which would be possible in face-to-face communication. This gives the text a certain autonomy in relation to the author, but also in relation to subsequent readers, because a text cannot be interpreted arbitrarily; this would deprive it of any meaning.

---

[12] D. Foster Wallace, 'This Is Water: Some Thoughts, Delivered on a Significant Occasion, about Living a Compassionate Life' (2009).

[13] W. Ong, *Orality and Literacy: The Technologizing of the Word* (1982); J. Goody, *The logic of writing and the organization of society* (1986).

[14] E. Eisenstein, *The Printing Revolution in Early Modern Europe* (2005).

[15] P. Ricoeur, *Tekst en betekenis. Opstellen over de interpretatie van literatuur* (1991).

Written law shares a number of characteristics with the technology of the text. Since the printing press began to play an increasingly important role and since law became increasingly dependent on the printed word, the role of interpretation and the need for complex argumentation became more prominent in legal practice. The legislature has limited powers to determine how its legislation will be interpreted by those subject to its binding force, and at the end of the day it is the court that has the authority to decide the meaning of the law when disagreements arise. In the interplay between legislature (author), public administration and citizens (readers) and courts (vested with the authority to decide on interpretation), the law thus acquires a certain autonomy.[16] The specific nature of the technology of the text thus leads a shift from 'rule *by* law', i.e. the law as an instrument by which governments enforce their own interpretation of the norms they issue, to 'Rule of Law', i.e. the law as a system of checks and balances that institutes countervailing powers, such that public administration and even the legislature itself are brought under the Rule of Law. In that sense the core principles of the Rule of Law (such as contestability and accountability) are not merely historical artifacts but also technological artifacts, directly linked to the flexibility of natural language and the responsive autonomy of text-driven normativity.

Written law shares a number of characteristics with the technology of text

This begs the question what principles qualify as informing the Rule of Law? If we focus on the most foundational elements of the Rule of Law we arrive at notions that are core to constitutional law, such as legality and purpose limitation, fair play of public administration, independent courts and effective protection of fundamental rights. These notions are neither mental representations of given moral precepts nor contingent on whatever a given order qualifies as law. They depend on the institutionalisation of countervailing powers that scaffold practical and effective legal protection. Legality is linked to legal certainty, which has been defined above as a particular combination of contestability and predictability, directly linked to the need to interpret and reinterpret the same binding legal text (whether legislation or case law) in the face of everchanging circumstances. The *fixation* inherent in a text calls for *flexibility* in its use, without lapsing into arbitrariness (as this would result in a disruptive 'anomie'). To this end, the authoritative determination of the right to contest is entrusted to an independent court that is guided by the whole 'architecture' of the law on the one hand and the ever-changing world it constitutes and regulates on the other hand. Thus, the task of a court is to sustain the tension between general rules and the singularity of acts and events. The task is not to resolve that tension; neither rigid application (legalism), nor 'Einzelfallgerechtkeit' (arbitrary rule) will do.[17]

---

[16] P. Nonet and P. Selznick, *Law and Society in Transition: Toward Responsive Law* (1978).

[17] This has to do with the role of discretion, see R Dworkin, 'Judicial Discretion' (1963) 60 *The Journal of Philosophy* 624–638. As to the discretion of the police M. Hildebrandt, 'New Animism in Policing: Re-animating the Rule of Law?', in *The SAGE Handbook of Global Policing* 406–428 (B. Bradford et al. eds, 2016). Cp. Wolswinkel, for example, who even advocates a 'right to algorithmic decision-making' within administrative law, suggesting that this would solve the problem of administrative arbitrariness. In my opinion, this confuses legality with legalism, and discretionary powers with arbitrary decisionism. See his provocative Inaugural Lecture (in Dutch): J. Wolswinkel, 'Willekeur of algoritme?: Laveren tussen analoog en digitaal bestuursrecht' (2020), 53-54, https://research.tilburguniversity.edu/en/publications/willekeur-of-algoritme-laveren-tussen-analoog-en-digitaal-bestuur.

We can say that the principles of the Rule of Law are tied to the text-driven nature of positive law, without lapsing into technological determinism

Effective protection of fundamental rights asserts the role of the state in effecting equal respect and concern for natural persons under its jurisdiction.[18] Such respect implies consideration of the relationship between, for example, freedom and non-discrimination, privacy and freedom of information, between the presumption of innocence and security and, more generally, between subjective rights and the interest in having a state that is capable of protecting those rights – if needed against the state itself. The latter requires a well-designed institutionalisation of countervailing powers, an internal distribution of sovereignty, such that protection does not depend on the state's willingness to protect, but on independent counter-play. This institutionalisation 'consists of' a set of speech acts which, for example, determine what office has which legal powers, what counts as a legally binding decision and under what conditions which legal consequences come about.

In short, we can say that the principles of the Rule of Law are tied to the text-driven nature of positive law, without lapsing into technological determinism. This is not a question of logic or causal coercion, but of what is made possible or impossible by the large-scale 'use' of text.

1.3 The mode of existence of a code-driven positivist 'law'?

The world that law constitutes and regulates is an evermoving target. This is not a new insight. However, if the information and communication infrastructure (ICI) of that world is transformed and if the ICI of law itself changes from text to code and computation, the way law exists cannot remain identical with its previous incarnations.

In the context of computational 'law', information and communication technology (ICT) is no longer a matter of word processors and electronic availability of court judgments, legislation and treaties, but a toolkit with which the 'output' of text-driven law can be searched intelligently. This involves, for example, locating relevant doctrines, mining lines of argument within a legal domain and predicting the outcome in pending cases.[19] Until recently, legal method has been a matter of 'close reading', the diligent work of individual lawyers selecting relevant text corpora (perhaps after consulting one or more search engines) and then scrutinising them in close detail. Either in order to derive arguments for a particular point of view (reasoning by analogy or *a contrario*), or in order to abstract and reconstruct relevant argumentation patterns to be used when interpreting the law (doctrine).

---

[18] The idea that governments owe their 'subjects' equal concern and respect was put forward by Dworkin as the core tenet of both democracy and the Rule of Law, R. Dworkin, *Law's Empire* (Fontana 1991).

[19] M.A. Livermore and D.N. Rockmore (eds), *Law as Data: Computation, Text, and the Future of Legal Analysis* (2019); K.D. Ashley, *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age* (2017); M. Hartung, M.-M. Bues and G. Halbleib, *Legal Tech: How Technology is Changing the Legal World* (2018); Susanne Chishti et al. (eds), *The LegalTech Book: The Legal Technology Handbook for Investors, Entrepreneurs and FinTech Visionaries* (2020).

In literary studies, the emergence of computational techniques such as machine learning has led to a new way of 'reading' large text corpora. Franco Moretti speaks of 'distant reading',[20] where software mines huge text corpora to detect mathematical relationships in the data relevant for identifying genre, developments in the history of the novel, or previously invisible connections between authors, gender, genre, language, cultural background and so on. This type of technology is now also used within the law – often under the heading of 'legal tech'.[21]

The techniques in question are part of the technology of 'machine learning', more specifically that of 'natural language processing' (NLP).[22] Let us briefly summarise these techniques here under the heading of data-driven systems, deploying machine learning (ML) techniques. ML is about algorithms that 'learn' on the basis of so-called 'training data', by detecting mathematical and statistical correlations within the data.

The use of such techniques stems from the high expectations that some people have of artificial intelligence as a solution to all kinds of problems, often based on a somewhat naive conception of what computer science can and cannot do. Precisely from the point of view of computer science itself one can question the reliability, accessibility and suitability of this type of system as a means to mine the law as if it were an oil field to be monetised.[23] An example of such a system is the prediction of court judgments based on mathematical correlations within datasets consisting of relevant case law.[24]

In the upcoming Research Study on Computational Law we will investigate the assumptions underlying these types of correlations and the reliability of the statistical relationships involved. Here I restrict myself to a succinct inventory of relevant issues, demonstrating that we are indeed confronted with novel understandings of what 'makes' legal knowledge legal.

---

[20] F. Moretti, *Graphs, Maps, Trees. Abstract Models for a Literary History* (2005).

[21] *The LegalTech Book*, *supra* n. 19; Hartung, Bues, and Halbleib, *supra* n. 19.

[22] N. Aletras et al, 'Predicting judicial decisions of the European Court of Human Rights: a Natural Language Processing perspective' (2016) 2 *PeerJ Comput. Sci.* e93; I. Chalkidis, I. A. and N. Aletras, 'Neural Legal Judgment Prediction in English', arXiv:1906.02059 [cs] (2019), http://arxiv.org/abs/1906.02059.

[23] 'Legal tech' is therefore often discussed in the context of the 'legal services industry', and presented as an inevitable consequence of market forces, cf. D.M. Katz, 'Quantitative Legal Prediction — Or How I Learned to Stop Worrying and Start Preparing for the Data-Driven Future of the Legal Services Industry' (2012) 62 *Emory L.J.* 909–966.

[24] F. Pasquale, 'A Rule of Persons, Not Machines: The Limits of Legal Automation' (2019) 87 *The George Washington Law Review* 1–55; M. Hildebrandt, 'Algorithmic regulation and the rule of law' (2018) 376 *Philos Transact A Math Phys Eng Sci*; M. Hildebrandt, 'Law as computation in the era of artificial legal intelligence: Speaking law to the power of statistics' (2018) 68 *University of Toronto Law Journal* 12-35; G. Vanderstichele, 'The Normative Value of Legal Analytics. Is There a Case for Statistical Precedent?' (2019) https://papers.ssrn.com/abstract=3474878.

The high expectations that some have of artificial intelligence as a solution to all kinds of problems are often based on a somewhat naive conception of what computer science can and cannot do

For instance, we need to inquire into: the quality of the data set (does it concern only the published judgments or also underlying evidence and memoranda, or does it also concern relevant cases that did not reach the court); the quality of the processing of the data (highlighting metadata such as the court hearing the case, the jurisdiction, the background of the plaintiff and defendant, the time span between bringing the case and ruling); the choice between 'supervised' or not 'supervised' machine learning, and in the case of 'supervised', the labelling of the data (the choice of certain variables, the qualification of individual data in terms of the variables chosen). Also important are: the development of a hypothesis space (the selection of mathematical functions capable of making the right connections within the data); the determination of 'performance metrics' (such as 'accuracy', 'precision', 'sensitivity'); and finally, the choice of mathematical optimisation techniques (such as loss and cost functions).

This excursion into the methodology of code-driven techniques confronts both lawyers and citizens with their inability to grasp how 'legal tech' derives lines of argument, predictions or advice and what such a derivation actually means. Can we assume that the mappings of argument, precedent, legislation and doctrine are 'true', 'correct' or 'probably true or correct'? On what would the answer to these questions depend and who could actually provide the answers: lawyers or computer scientists, both or neither?

Will lawyers have to learn to apply these kinds of techniques or can they quietly outsource their application to Big Tech, Big Law or to startups that identify a gap in the market of legal services?[25] Do lawyers need to explain to computer scientists how law actually operates and why it is important that legal concepts are not disambiguated? Does 'legal tech' increase the space to adapt or even personalise the law because precision-justice can be done based on myriad circumstances (introduced as variables in a multidimensional feature space)?[26] Or does 'legal tech' reduce the space to adapt the law, because the choice of variables implies an invisible form of interpretation decided upon by software developers, after which the system is, as it were, screwed onto that one interpretation?[27] What does it mean that lawyers have no idea what choices have been made in the design of the software they use, let alone what trade-offs are involved? To what extent can lawyers assist litigants who want to dispute the outcome of 'legal tech'?

Do lawyers need to learn a new language, namely that of machine learning, in order to be able to defend themselves against the output of their opponent's 'legal tech'? Or should lawyers refuse to do so and rely on

---

[25] R. Susskind, *The End of Lawyers?: Rethinking the nature of legal services* (Revised edition ed. 2010); D.M. Katz, 'Quantitative Legal Prediction — or How I Learned to Stop Worrying and Start Preparing for the Data Driven Future of the Legal Services Industry', (2012) 62 *Emory Law Journal* 909-66; *The LegalTech Book*, *supra* note 19; Hartung, Bues, and Halbleib, *supra* n. 19.

[26] P. Lippe, D.M. Katz and D. Jackson, 'Legal by Design: A New Paradigm for Handling Complexity in Banking Regulation and Elsewhere in Law' (2015) 93 *Oregon Law Review* 832-51.

[27] D.K. Citron, 'Technological Due Process' (2008) 85 *Washington University Law Review* 1249–1313.

their traditional skills, which to a large extent build on 'close reading' of legal texts? Or is it possible, without any knowledge of machine learning, to integrate ML-based systems by way of shortcuts; can we proceed to 'distant reading' of the legal sources and thus achieve a degree of efficiency that is desperately needed due the ever-expanding reservoir of binding legal text?[28]

Legal theory and philosophy of law distinguish different conceptions of law and the Rule of Law. This may regard the relationship between law and morality (natural law as opposed to formal positivism), or the core tenets of the Rule of Law (which can be understood in formal terms or in substantive terms). For our purpose the pivotal distinction is that between a positivist and a hermeneutical conception of law and the Rule of Law.

> What does it mean that lawyers have no idea what choices have been made in the design of the software they use, let alone what trade-offs are involved?

The first, positivism, makes a strict distinction between law and morality (the separation thesis) and thus between how the law 'is' (*de lege lata*) and how it 'should be' (*de lege ferenda*). From the perspective of a positivist, the task of a lawyer is to explain how the law 'is', whereas a discussion of how it should be is in the remit of the legislature and otherwise depends on the ethical insights of individual citizens. Positivism is associated with legalism and assumes that either the law is clear and must be followed or unclear, thus leaving room for judicial discretion.

The second, hermeneutical conception of law, acknowledges the text-based nature of positive law and the implied need for interpretation. Here, deciding the meaning of the law is always a matter of interpretation, whether done tacitly or explicitly, based on intuitive common-sense judgements or complex argumentation. The need to interpret a legal text in light of the facts of a case interacts with the need to interpret the facts of the case in the light of the relevant legal norms, thus entering a virtuous circle that requires keen attention to the text-driven normativity on the one hand and acuity as to its multi-interpretability in the light of the circumstances that apply. A hermeneutical approach embraces the polysemous nature of human language, whereas a positivist approach tends to disambiguate words, sentences and paragraphs. The first achieves closure after hearing arguments for different interpretations, the second prefers to arrive at closure even before the argument has begun.

The nature of computational normativity aligns more easily with a positivist approach. The idea of disambiguating a text as if it were a standalone device, after which it should be applicable in the same way to any new case fits well with the need for disambiguation that is key to the formalisation that defines computational 'law'. This means that legal positivism connects easily with 'legal tech'. It also means that the deployment of

> The nature of computational normativity aligns more easily with a positivist approach

[28] M. Hildebrandt, 'The Meaning and Mining of Legal Texts', in *Understanding Digital Humanities: The Computational Turn and New Technology* 145-160 (D.M. Berry ed., 2011); M. Hildebrandt, 'Law as Information in the Era of Data-Driven Agency' (2016) 79 *The Modern Law Review* 1–30.

legal technologies as part of a hermeneutical approach may be less intuitive and will require a bespoke design.

1.4 COHUBICOL foresees the need for computational counterclaims

Above, I have argued that effective legal protection requires 'consideration of the relationship between, for example, freedom and non-discrimination, privacy and freedom of information, between the presumption of innocence and security and, more generally, between subjective rights and the interest in a state that is capable of protecting those rights – if needed against the state itself. The latter requires a well-designed institutionalisation of powers and countervailing powers, an internal distribution of sovereignty, such that protection does not depend on the states willingness to protect, but on independent counter-play'.

The use of code-driven 'law' or 'legal tech' calls for contestation at the level of the technology, to reinstate the double play of contestability and predictability. Power and countervailing power must be anchored in the code-driven architecture to make sure that law's new mode of existence remains true to the Rule of Law instead of imploding to a rule *by* law.

In the case of text-driven law, the counterplay is text-driven; adversarial and contradictory proceedings, objection, redress and appeal are embedded in the narrative, argumentative structure of natural language.

As with text-based law, the possibility of counterplay should not depend on the goodwill of those who develop or use the software; it is not about self-binding, but about the institutionalisation of countervailing powers

In code-driven 'law' a similar type of counterplay will have to be built into the software, both at the level of the interface and at the backend of the system, where counterplay should lead to proper safeguards against emancipated citizens being nudged into well behaved subjects). As with text-based law, the possibility of counterplay should not depend on the goodwill of those who develop or use the software; it is not about self-binding, but about the institutionalisation of countervailing powers. This will be a matter of design; the construction of checks and balances is no longer about written and spoken speech acts, but about design decisions that determine whether, when and which speech acts can be performed by whom.

In a seminal judgment of 2020 in the Netherlands, on the System Risk Indication (SyRI) that was developed for the automated detection of e.g. social security fraud and tax fraud, the The Hague District Court[29] quoted the advice of the Council of State on so-called 'deep learning' systems (consideration 6.46):[30]

> The term "self-learning" is confusing and misleading: an algorithm does not know and understand reality. There are predictive algorithms that are now reasonably accurate in predicting the outcome of a lawsuit. However, they do not do so on the basis of the merits of the case. They cannot, therefore, justify their predictions in a legally sound manner, whereas this is required for every legal procedure in each individual case.
>
> The reverse is also true: the human user of such a self-learning system does not understand why the system concludes that there is a connection. An administrative body that (partly) bases its actions on such a system cannot properly justify its actions and cannot properly motivate its decisions.

The Council of State hits the nail on the head. Even if we could explain how a predictive algorithm arrives at its prediction, this does not provide for legal justification.

The point, therefore, is not to know how 'deep learning' works, but whether the outcome is lawful and that means justifiable. Likewise, court decisions are not about whether a decision was made under the influence of a hot temper, a wrong diet, personal affinities or whatever. None of these can be used as a basis for a court decision. The law in point of fact restricts the court's 'decision space'. Judges – whatever their personal motivation or irritation may be – can only justify their decisions based on the applicable law.

This restriction of the decisional space also applies if judges were to employ 'deep learning' or other code-driven systems. However accurate a prediction may be from a statistical perspective, the judge must remain within the boundaries of a valid legal argumentation. And the validity of that argumentation does not depend on a statistical correlation with similar arguments in earlier judgments, but on the validity and the applicability of substantive and procedural legal norms.

The law restricts the court's 'decision space'. Judges – whatever their personal motivation or irritation may be – can only justify their decisions based on the applicable law

What, then, is the meaning of computational counterplay? Should lawyers join forces with the developers of legal technologies to build-in such counterplay? How can legal protection be incorporated and guaranteed '*by design*'?

---

[29] The Hague District Court, 5 February 2020, ECLI:NL:RBDHA:2020:865. The District Court considers the use of the system unlawful due to violation of the right to privacy (Article 8 ECHR). This conclusion is based on a violation of the proportionality requirement, whereby the significant interference in privacy and the lack of transparency and contestability do not outweigh the potential benefits of achieving the legitimate aim (detecting fraud).

[30] Parliamentary Papers II 2017/18, 26643, *557*, p. 13. M. Hildebrandt 'ICT en Rechtsstaat', in *Recht en computer* 25–45 (S. Van der Hof, A.R. Lodder, & G.J. Zwenne eds., 2014). Which includes a discussion of the SyRI system.

We end this introduction with five recommendations, which require further elaboration in the Research Study on Computational Law:

1. when preparing legislation and regulations, counterplay must be foreseen at the level of the legislature, by deciding whether and how code-driven 'law' can be employed; keen attention to the implications of legal tech cannot be outsourced to the level of 'implementation' because these implications concern the constitution of law,[31]
2. when public administration or the judiciary develop or purchase legal technology, their purposes should be decided by the judiciary, the public prosecutor's office or the police, and such purposes should be both mathematically and empirically testable, which will involve falsification rather than verification, i.e. attention must be paid to the extent to which and the way in which the software 'does' something other than what was intended,[32]
3. deployment of code-driven 'law' must integrate counterplay at the computational level, implying that those subject to automated decisions are aware of this and are provided with the tools to contest them,[33]
4. they must be able to defend themselves in a relatively simple manner against the way in which the system qualifies their actions, because such qualification may give rise to further investigation, discrimination, invisible manipulation, interference in private life, and legal consequences attributes based on computational correlations rather than legal justification,[34]
5. similarly, when it comes to 'legal tech', those concerned must be able to contest the legal effect created on the *basis of,* or by, the system. At the computational level, this requires a user-friendly environment where an 'objection' or 'appeal' button is 'at hand', with a layered backend system that enables smooth, understandable and effective interaction. This interaction involves human intervention, not as a 'human in the loop',[35] but as a competent human agent. In a constitutional state it is the machine that - if that were to provide added value - belongs 'in the loop', not the human.

---

[31] See again the Advice of the Council of State on Information and Communication Technology (ICT), Parliamentary Papers II 2017/18, 26643, *557*, 25-6.

[32] P. Polack, 'Beyond algorithmic reformism: Forward engineering the designs of algorithmic systems' (2020) *7 Big Data & Society* 1-15. See also the way the Brazilian judiciary is handling this, in G. Gori, 'Promoting Artificial Legal Intelligence while securing Legal Protection: the Brazilian challenge', COHUBICOL Research Blog, 1 September 2020, available at https://www.cohubicol.com/blog/promoting-artificial-legal-intelligence-while-securing-legal-protection-the-brazilian-challenge/.

[33] Art. 22 in conjunction with Art. 13-15 General Data Protection Regulation (AVG) provide for a right to information *about the fact that* decisions have been taken on the basis of automated systems. See also EDPB (formerly Art. 29 Working Party), 3 October 2017, WP251rev.01, Guidelines on automated individual decision-making and profiling for the application of Regulation (EU) 2016/679.

[34] The qualification will often be derived from the 'labelling' of the training data and not be based on an individualised assessment. Although judgements based on generalisations will often be made even without the use of 'legal tech', the point here is that those subject to there decisions must be able to contest them.

[35] But not in the sense of Wolswinkel, *supra* n. 13, who in his Inaugural Lecture advocates a right to algorithmic decision-making, in other words a right to a 'computer in the loop'. My point is that code-driven 'law' should be at the service of human beings and not the other way round.

2 Three framing concepts

Mireille Hildebrandt

> What one really needs, in each case, is a cycle of terms defining not point concepts but a structure of ideas – multiple meanings, multiply implicated at multiple levels.
>
> Geertz[36]

2.1 Introduction

In the next chapter we will discuss ten of the foundational concepts of law and the Rule of Law to clarify:

1. the web of meaning that institutes **law as a system of legal norms** and simultaneously as **a system of legal relationships** and

2. the **texture of the text-driven normativity** that is afforded by the performative effects of these concepts.

These concepts are: legal norms, Rule of Law, positive law, legal effect, sources of law, jurisdiction, legal subject, subjective right, legal power and legal reasoning and legal interpretation.

When weaving together the web of meaning that defines the conceptual anchoring of the law, we will use the prism of three additional concepts not usually deployed when discussing law or the Rule of Law: (1) mode of existence (MoE), (2) affordance and (3) legal protection by design (LPbD). These 'framing concepts' are core to COHUBICOL and should contribute to a better understanding of the relationship between the technological articulation of law on the one hand and the nature of the legal protection offered by such articulation. The prism of these three framing concepts should help the reader to better understand what the technologies of text enable in terms of legal protection, before investigating whether, and if so how, data- or code-driven 'legal technologies' can offer equivalent protection.

In this chapter I will briefly define each framing concept, followed by excerpts from the *Project proposal* and *Smart Technologies and the End(s) of Law* to clarify how these concepts were introduced into the project.

2.2 Modes of Existence

1. The concept of a MoE was introduced in the Project as a way to highlight that **modern positive law** exists in a specific way, compared to other types of legal traditions (e.g. medieval, Roman, religious)[1] and compared to other societal domains (notably morality and politics, but also economics or religion).[2]

---

[36] Clifford Geertz, 'Local Knowledge: Fact and Law in Comparative Perspective', in idem, *Local Knowledge. Further Essays in Interpretive Anthropology* (1983), 185.

[1] P. Glenn, *Legal Traditions of the World: Sustainable Diversity in Law* (2014).

[2] B. Latour, *An Inquiry into Modes of Existence: An Anthropology of the Moderns* (Harvard University Press 2013).

2. Core to the idea of MoE is that speaking and writing can be ways of acting, bringing about **performative effects** while creating so-called institutional facts. Modern positive law is the prime example of such acts, exemplified in the notion of **legal effect**, that is neither caused nor logically inferred but constituted by speech acts such as: *enacting* legislation, *concluding* a contract, *deciding* a judgment.[3]

3. The concept was inspired by Latour's usage, which was in turn inspired by Souriau[4] and similarly inspired by Stengers' concept of an ecology of practices.[5] In *Smart Technologies and the End(s) of Law*, however, I developed my own conception of **the way that law-as-we-know it exists**, highlighting the relationship between, on the one hand, modern positive law and the Rule of Law and, on the other hand, the information and communication infrastructure (ICI) of the printing press.

4. A key difference may be that I argue that current law's mode of existence is **an affordance of the technology of text**, which in turn also afforded the institutional checks and balances of the Rule of Law. The Project is based on the assumption that we cannot presume that once law becomes grounded in another ICI its **affordances in terms of legal protection** will remain the same, more notably with regard to the legal protection offered under the Rule of Law. The Project aims to investigate how this will affect law's current mode of existence, more notably the nature of legal effect and related institutional foundations.

2.2.1 The COHUBICOL Project proposal

In the Cover Page Summary and Abstract we read that

> The core thesis of the research is that the upcoming integration of computational law into mainstream legal practice, **could transform the mode of existence of law and notably of the Rule of Law**.

Further down in the proposal I suggest that to highlight the difference between modern positive law on the one hand and code- and data-driven 'law' on the other, we need to face the fact that current law's mode of existence is text-driven, clarifying the terminology that grounds the project. This is further explained when introducing the concept of a 'mode of existence' as one of the core conceptual lenses through which the project will seek to understand potential transformations of the law, brought about by computational legal software systems:

> Data-driven law thus *affords* another *mode of existence* of the law, which introduces the second concept that will drive the research into the assumptions and implications of text-, data- and code-driven law. Inspired by Latour,[6] and building on my own work,[7] **we will investigate the transformations of law's**

---

[3] In this Research Study we use 'judgment' to distinguish the legal species from all other uses, which will be spelled as 'judgement' (e.g. moral or professional judgements).

[4] É. Souriau, 'Les différents modes d'existence' https://www.puf.com/content/Les_diff%C3%A9rents_modes_dexistence accessed 13 February 2019.

[5] I. Stengers, *Cosmopolitics I* (R. Bononno tr, Univ Of Minnesota Press 2010); I. Stengers, *Cosmopolitics II* (R. Bononno tr, Univ Of Minnesota Press 2011).

[6] B. Latour, *An Inquiry into Modes of Existence: An Anthropology of the Moderns* (Harvard University Press 2013).

[7] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015).

> **normativity in terms of its *mode of existence*, highlighting that we cannot take for granted that data-driven or code-driven law *affords* the same normative force as text-driven law**. We need to acknowledge that if the interpretation of legal text is performed by machines that calculate the correctness of interpretation in terms of a *performance metric*,[8] this refers to an altogether different 'thing' than the *performativity* of text-driven law.[9] This will, for instance, affect the kind of legal certainty that – in the case of text-driven law – is generated by the disciplined but nevertheless contestable interpretation of legal text by human beings, which is not only defined by the need for predictability but also by the need for contestability that is core to the Rule of Law.[10] The centrality of the need for interpretation in modern law is an *affordance* of the technologies of the script and the printing press.[11] The practice and theory of interpretation (hermeneutics)[12] have a specific meaning in the context of law,[13] as law is rooted in concepts with an open texture,[14] and in rules that cannot determine their own meaning,[15] requiring iterant interpretation, argumentation and contestation.

And also:

> Latour's concept of modes of existence that inspired my understanding of modern law's mode of existence, is closely aligned with Stenger's concept of an ecology of 'practices'.[16] Both highlight the relational nature of practices and the mode of existence they actualize, and the fact that they themselves determine what counts as such practice, while interacting with other practices and their environment. To put it more bluntly: it is not computer science that determines whether a legal decision system counts a law (its performativity) and it is not a lawyer who decides whether machine learning is effective in the computer science sense of that term (its performance metric). However, practices are affected by their environment and what counts as law may change under the influence of law's computational environment; especially where current law's text-driven nature is replaced by computational translations. That is why – perhaps unlike Latour – I believe we may be on the verge of another mode of existence of law. This research is meant to target this transition, and **as a lawyer I declare loyalty to modes of existence that align with potentially novel incarnations of the Rule of Law**, because I believe that those under law's

---

[8] T. Mitchell, *Machine Learning* (1st edition, McGraw-Hill Education 1997).

[9] N. MacCormick, *Institutions of Law: An Essay in Legal Theory* (Oxford University Press 2007).

[10] M. Hildebrandt, 'Radbruch's Rechtsstaat and Schmitt's Legal Order: Legalism, Legality, and the Institution of Law' (2015) 2 *Critical Analysis of Law* http://cal.library.utoronto.ca/index.php/cal/article/view/22514 accessed 24 March 2015. Jeremy Waldron, 'Concept and the Rule of Law, The' (2008) 43 *Georgia Law Review* 1.

[11] P. Lévy, *Les Technologies de l'intelligence. L'avenir de La Pensée à l'ère Informatique* (La Découverte 1990); E. Eisenstein, *The Printing Revolution in Early Modern Europe* (Cambridge University Press 2005); W. Schultz and K. Dankert, ''Governance by Things' as a Challenge to Regulation by Law' (2016) *5 Internet Policy Review* https://policyreview.info/articles/analysis/governance-things-challenge-regulation-law accessed 29 August 2017.

[12] P. Ricoeur, *Interpretation Theory* (Texas University Press 1976).

[13] R. Dworkin, 'Law as Interpretation' (1982) 60 *Texas Law Review* 527.

[14] H.L.A. Hart, *The Concept of Law* (Clarendon Press 1994).

[15] L. Wittgenstein and G.E.M. Anscombe, *Philosophical Investigations: The German Text, with a Revised English Translation* (Blackwell 2003); C. Taylor, 'To Follow a Rule' (1993) 6 *Bourdieu: critical perspectives* 45.

[16] I. Stengers, *Cosmopolitiques. Tome 1. La Guerre Des Sciences* (La Découverte / Les Empêcheurs de penser en rond 1997); I. Stengers, *Cosmopolitics II* (R. Bononno tr, Univ Of Minnesota Press 2011).

> jurisdiction demand keen attention to the kind of certainty, justice and purposiveness that law-as-we-know it affords (even if this cannot always be achieved).

This raises a set of fundamental questions:

> To what extent – and how – will text-driven legal practice be disrupted by the advent of computational law, **meaning that the mode of existence of modern positive law may undergo a fundamental transformation**? How does such disruption affect the checks and balances instigated by the Rule of Law? Which checks and balances require reinvention in a data-driven legal practice?

And it will inform the output of the project:

> Halfway the fourth year two extended treatises will be written that reflect on how data- and code-driven normativities may afford the kind of protection that is warranted under the Rule of Law, achieving a dynamic reflective equilibrium between more concrete proposals of legal protection by design and an inquiry into the scope and the meaning of the concept of legal protection by design. **This will include a first reflection upon the kind of methodological innovation that is warranted by computational law if it is to sustain the mode of existence of law as the Rule of Law.** The treatises will be authored by the legal team, with input from the computer science postdocs, and used as input for the dissertations of the PhD students. The treatises will interact with two major conferences in Brussels, based on CfPs, targeting legal protection in data-driven law (end of the third year) and in code-driven law (end of the fourth year).

…as a lawyer I declare loyalty to modes of existence that align with potentially novel incarnations of the Rule of Law

2.2.2 *Smart Technologies and the End(s) of Law*

As shown above, the concept of *modes of existence* is **inspired by but not equivalent with** Latour's intended meaning of the term. To better understand the intended meaning of 'the mode of existence of law and the Rule of Law' we will track back to my *Smart Technologies and the End(s) of Law* where I developed this particular understanding of current law's mode of existence, notably in chapters 7 and 8:[17]

> By mode of existence I mean nothing more than the way that law exists, since it obviously does not exist in the same way as a table (which is a matter of matter and function and form and meaning), or in the same way as a religion or the economy (which generates functions and forms and meaning while developing complex relationships with tables and candles and manufacturing and prayers). My take is that the mode of existence of modern law is deeply dependent upon the printing press and the way it has shaped our world.

[17] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015) at p. 133.

I explain the origins of the concept in relation to the concepts of speech acts and institutional facts:[18]

> The concept of institutional facts was coined by another Austin,[19] in a famous work (1962) titled *How To Do Things with Words?*[20] He highlighted the fact that some utterances do not (only) describe a reality, but actually bring it into being. 'I declare you man and wife', is an example of this. Such institutional facts depend on institutions, such as marriage, the church, universities, money or contract. Austin's institutions are what Latour would call 'regimes of veridiction'; they clarify the truth conditions for the facts that we determine as such. Or, as Austin and Latour would say: they constitute the conditions of felicity for the actual institution (Austin) or fabrication (Latour) of a fact. For instance, if I put my thumb up, a natural scientist could describe all the myriad interactions that take place within the body, including the physics, the chemistry and the biology, based on her knowledge of bodily movement in the context of her science. This will not, however, convey the meaning of the gesture within a specific group. For a correct description of such meaning we must rely on another set of truth conditions that help us understand what people mean when they 'do' the thumbs-up. In a society where the thumbs-up institutes the conclusion of a contract, we may need a legal expert to clarify the relevant 'regime of veridiction'. Latour has placed truth regimes in the context of the constitution of what he calls different modes of existence, a term inspired by Souriau:[21]
>
> This banal and quasi-ecological expression refers to a specific speech act – each with its peculiar felicity and infelicity conditions – to which is added the claim that a highly specific type of world is being inhabited. Souriau's argument is not to say that there are several ways to talk about one world but several ways for the worlds (in the plural) to be addressed.
>
> This is an interesting proposal. It relates to the notion of a life world or *Welt*, as introduced in Chapter 3,[22] but basically admits that we do not inhabit one monolithic *Welt*, but necessarily navigate different *Welts* that determine different dimensions of our reality. This reality is plural and depends on hard work, namely on addressing the modes of existence to sustain their existence. It probably implies that Latour is not interested in concepts and conceptualizations as ways of seeing the world, but in the way such concepts shape the environment in which we live. It can be related to the notions of 'agencement', affordance and enaction. The first highlights the way that different entities animate each other when forming a hybrid, while the second underlines the fact that a mode of existence affords specific roles, actors and actions while constraining others, and the third notes the reiterant feedback loop between action and perception as performing our world. This seems an excellent proposition to understand and

---

[18] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015) at p. 146.

[19] This is the other Austin referred to (i.e. not the one at stake here): J. Austin and W. Rumble (ed), *The Province of Jurisprudence Determined* (Cambridge University Press 1995).

[20] J.L. Austin, *How to Do Things with Words* (Oxford University Press 1962) http://doi.wiley.com/10.1111/j.1468-0149.1963.tb00768.x accessed 15 March 2019.

[21] B. Latour, 'Biography of an Inquiry: On a Book about Modes of Existence' (2013) 43 *Social Studies of Science* 287; É. Souriau, *Les différents modes d'existence* (Presses Universitaires de France — PUF 2009). Latour pp. 1-2, referring to Souriau.

[22] Chapter 3 explores and frames 'the onlife world', based on the concept of *Welt* as developed by Husserl, Heidegger, Merleau-Ponty, Plessner, and on Wittgenstein's *Lebensform*. See note 67 on p. 229 of M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015).

> investigate how the law operates, what conditions of felicity it institutes and what work is required to maintain and preserve its mode of existence. I believe that Latour, however, would not understand the law as an 'agencement'. Instead he would expect different entities to come together, confronting and inspiring the law as test cases for its 'regime of veridiction'; such new 'agencements' can be found in the onlife world, forcing the law to face the transformation of its environment. In the next chapter I will argue that different conceptions of law implicate different modes of existence that vie for dominance. Here, I will build on a particular understanding of law as a value-laden concept and practice, to ground and suspend the ends of the law that are at stake in an onlife world.

I then connect the concept of law with Radbruch's antinomian understanding of law:[23]

> Law may be a pudding, but it is not any kind of pudding. Its texture, elasticity, form and identity matter. One way to find out how they matter, is to figure out what values law incarnates. In doing so, we should avoid both idealistic renderings that conflate law with justice and instrumentalist perspectives that deny the value-aspect of law. In the next chapter we will return to these reductions, because they play an important role in attempts to sterilize the law as an independent construct, or to instrumentalize the law for political or economic purposes. Here, I will elaborate on the work of a lawyer and philosopher of the first half of the 20th century, who turned the productive tensions between the different aims of the law into its agonistic core.

Law's current mode of existence sustains a productive tension between its threefold aims:[24]

> Justice, legal certainty and purpose are antinomian. This implies that though the law always strives to achieve these ends, their application in specific situations will often be incompatible. It may be tempting to resolve the ensuing tension by reducing the goals to one overarching goal or by reducing them to each other. In fact, Radbruch speaks of the generic goal of justice in the broad sense, but this must be understood as the agonistic space where the antinomian aims vie for dominance. Indeed, I believe that Radbruch's insistence on the unruly agonism of the ends of the law is not unlike Latour's principle of irreduction. Though the reader may understand irreduction as the recognition of the irreducibility of a thing or a value, this easily reduces to a kind of essentialism. As if justice, purpose and legal certainty could exist and play out independently, on their own, without being tested against each other. Latour's irreduction would, on the contrary, mean that they cannot translate into or reduce themselves to each other, but – on the contrary – only come into their own in their mutual confrontation. Yes, they must be respected on their own terms, but these terms become clear only when challenged by the other aims. This type of irreduction confirms that lawyers will have to cope with difficult choices that must be accepted as an invitation to consider all that is relevant, to suspend judgement until all parties are heard and relevant arguments deliberated. While still ending with judgement.

The book further explains the affordances of law's text-driven mode of existence in chapter 8, that is also very relevant for the next conceptual innovation: that of an affordance.

---

[23] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015) at p. 147.

[24] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015) at p. 149.

2.3 Affordance

1. The concept of affordance, as used in this Project, builds on **Gibson's original concept** that was part of his **ecological psychology**, which traced the relational nature of what are often considered 'properties' of a specific environment:[1]

> The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, but the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment.

2. The concept has been further developed by **Norman in the domain of design**,[2] initially focused on how to design technological artefacts in such a way that the intended affordances of a product are **more easily perceived as such by the relevant user.** From the perspective of the Project we are however also interested in what hidden affordances can be manipulated by the provider or user of a system to influence end-users, e.g. without their conscious awareness.

3. We will use the concept in a broader sense, building on Gibson:

a. The affordances of the **material & institutional environment** of human beings are what they offer **an embodied human agent**, what they provide or furnish, either for good or ill. We mean by the term affordance something that refers to both the material & institutional environment and the human agent.

   i. More specifically we are interested in **legal protection** as an affordance of ***law as a material & institutional environment*** in relation to natural persons (human beings).

b. The affordances ***of*** a specific information and communication infrastructure (ICI) ***for*** the constitution of the law (that in turn becomes the material & institutional environment of human beings).

   i. More specifically we are interested in **modern positive law** as a system of legal written speech acts and their resulting **institutional facts**, built on the ICI of text.

   ii. We will inquire how this compares to **a computational law** that may have to be qualified as **a system of brute facts**, built on a code- or data-driven ICI.[3]

2.3.1 The COHUBICOL Project proposal

In the Cover Page Summary and Abstract we read that:

---

[1] J.J. Gibson, *The Ecological Approach to Visual Perception* (1 edition, Routledge 2014).

[2] D. Norman, *The Design of Everyday Things* (MIT 1998).

[3] G.E.M. Anscombe, 'On Brute Facts' (1958) 18 *Analysis* 69; M. Hildebrandt, 'Text-Driven Jurisdiction in Cyberspace' https://osf.io/jgs9n/ accessed 22 May 2021.

> The research methodology is based on legal theory and philosophy of law in close interaction with computer science, integrating key insights into the affordances of computational architectures into legal methodology, thus achieving a pivotal innovation of legal method.

As indicated when discussing the mode of existence of law, the project first assesses the affordances of text-driven law based on previous work that argues how the Rule of Law depends on a text-driven normativity. This Research Study develops the findings of this assessment, as indicated in the Project description:

> This research project assumes a rigorously relational and ecological approach to law, to individual persons and society, and to computer science. For instance, the crucial concept of affordances derives from Gibson's ecological psychology,[4] acknowledging that organisms can only be understood in relation to the environment on which they depend. This aligns with Sen's relational understanding of human capabilities as pivotal for an effective human rights law.[5] In fact, Latour's concept of modes of existence that inspired my understanding of modern law's mode of existence, is closely aligned with Stenger's concept of an ecology of 'practices'. Both highlight the relational nature of practices and the mode of existence they actualize, and the fact that they themselves determine what counts as such practice, while interacting with other practices and their environment.

As the reader will see, this quote partly overlaps with a quotation above, highlighting the interaction between the concepts of affordance and mode of existence.

> During the first year, the legal team will investigate the affordances of text-driven normativity, exploring the concept of an affordance in counterpoint to that of a capability, while testing the salience of its application to law's current mode of existence, understood as the current 'functionings' of what counts as law.[6] This engages with a Wittgensteinian and pragmatist understanding of the meaning of concepts, seeking such meaning in their usage and the consequences of their application (…). We include a study of the assumptions that underlie traditional legal concepts such as the force of law, legal effect, legal personhood and legal certainty, tracing the implications of law's reliance on the technologies of the word (Ong 1982, Goody and Watt 1963, Eisenstein 2005) for the meaning of law and for the nature of the protection it offers (Hildebrandt 2008, Vesting 2013, 2011b, 2011a).[7]
>
> (…)
>
> As should be clear, the concept of an affordance brings together the inquiry into the assumptions and the implications of text-, data- and code-driven normativity. By thinking in terms of affordances it becomes possible to acknowledge and study that and how specific assumptions have implications that trigger specific effects, in particular those regarding the capabilities that such normativities do or do not afford human beings. The advantage of thinking in terms of affordances is that it does not incline to technological

---

[4] J.J. Gibson, *The Ecological Approach to Visual Perception* (1 edition, Routledge 2014).

[5] A. Sen, 'Human Rights and Capabilities' (2005) 6 *Journal of Human Development* 151.

[6] A. Sen, 'Human Rights and Capabilities' (2005) 6 *Journal of Human Development* 151.

[7] W. Ong and J. Hartley, *Orality and Literacy: The Technologizing of the Word* (30th anniversary ed.; 3rd ed, Routledge 2012); J. Goody and I. Watt, 'The Consequences of Literacy' (1963) 5 *Comparative Studies in Society and History* 304; E. Eisenstein, *The Printing Revolution in Early Modern Europe* (2nd edn, Cambridge University Press 2012); T. Vesting, *Legal Theory and the Media of Law* (2018).

> determinism but nevertheless pays keen attention to the specific conditions under which a technology may overdetermine its effect, compared to conditions that are merely conducive to such effects.

During the second year, the study of text-driven normativity will be complemented with a new type of collaboration with computer scientists:

> As such, the second year will provide pivotal groundwork for a substantial methodological innovation of legal research and a sustained reflection on how the hidden assumptions of current, text-driven law co-determine its affordances. This will involve keen attention to the difference between the performativity of text-driven law and the performance metrics of quantified legal prediction technologies, (…). Precisely when lawyers are confronted with the intricacies and the 'otherness' of computational systems they become more deeply aware of the extent to which their understanding of what makes law 'law' depends on its text-driven nature.

2.3.2 *Smart Technologies and the End(s) of Law*

The concept of an affordance highlights the ecological nature of agency, squarely situating agents as dependent on what their environment 'affords' them in terms of both action and perception. This means that we no longer speak of the 'properties' or 'characteristics' of either an agent or an environment, but always of the affordances of a particular environment in relation to a particular agent. This may be a plant, an animal, a human animal and even an artificial agent. Highlighting the ecological nature of an agent's ability to act and perceive is core to affordance theory. In *Smart Technologies and the End(s) of Law*, I have emphasised the connection with an embodied and enactive understanding of human agency:[8]

> The emphasis on the material embedding of complete agents and on their capability to survive in a real-world environment links up with phenomenological research into the constitution of agency.31 This type of research highlights the relationship between action and perception, rejecting the primacy of perception as something that develops independently from interaction. Instead, the idea is that our perception and notably our understanding of causality derive from navigating an environment and being confronted with the resistance of real-world scenarios. Pattern recognition, in that perspective, is dependent on the particular embodiment of an organism and the specific affordances of its environment. Though some pattern recognition may be hardwired into the organism, much will be developed in the course of its life, basically learning how to create and sustain the best fit with whatever the environment offers. The co-constitutive relationship between action and perception has been termed 'enaction' by authors like Varela, Thomson and Rosch,[9] underlining the role of the body in cognition and rejecting, for instance, the idea that a 'brain in a vat' qualifies as a mind. No body no mind, one could say. Not even a mindless mind could survive as a separate thing, outside its material embeddedness.

This clarifies that not only the environment is material but that also the agent navigating their environment is material. In the case of a living agent we usually speak of an embodied agent.

---

[8] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015) qt 28.

[9] F.J. Varela, E. Thompson and E. Rosch, *The Embodied Mind. Cognitive Science and Human Experience* (MIT 1991).

2.4 Legal Protection by Design

1. LPbD is a term I have coined[1] to refer to the articulation of legal protection into the prevailing information and communication infrastructure (ICIs), more notably **the legal protection provided by fundamental rights**[2] **and the checks and balances of the Rule of Law**.

2. LPbD is not equivalent with Lawrence Lessig's **'Code as Law',**[3] which frames the normative force of computing code in terms of 'architecture', next to social, economic and legal norms. This Project is based on the understanding that social, economic and legal norms overlap in various ways, e.g. also highlighting that the extent to which computer code determines human behaviour depends on the affordances of the relevant computing systems.[4]

3. LPbD should not be confused with **techno-regulation,**[5] which refers to **both legal and non-legal**, and – in case of the latter – both **deliberate and accidental regulatory effects of technologies**. Based on the understanding that 'technology is neither good not bad, but never neutral',[6] technologies have normative affordances that may be part of deliberate design or engineering decisions, aimed to have specific intended effects, though such normative affordances may also be what are often called side-effects.

4. LPbD must also be distinguished from **'ethics by design'**[7] or **'values by design',**[8] which is based on the acknowledgement that any design will have normative and possibly moral implications, inevitably embedding certain values, whether or not the designer is aware of this. LPbD aims to incorporate the specific values of fundamental rights and the checks and balances of the Rule of Law into prevailing ICIs, grounding

---

[1] M. Hildebrandt, 'A Vision of Ambient Law' in R. Brownsword and K. Yeung (eds), *Regulating Technologies* (Hart 2008); M. Hildebrandt and B.-J. Koops, 'The Challenges of Ambient Law and Legal Protection in the Profiling Era' (2010) 73 *The Modern Law Review* 428; M. Hildebrandt, 'Legal Protection by Design: Objections and Refutations' (2011) 5 *Legisprudence* 223; M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015); M. Hildebrandt and L. Tielemans, 'Data Protection by Design and Technology Neutral Law' (2013) 29 *Computer Law & Security Review* 509.

[2] C.L. Geminn, *Rechtsverträglicher Einsatz von Sicherheitsmaßnahmen im öffentlichen Verkehr* (Springer Fachmedien Wiesbaden 2014) http://link.springer.com/10.1007/978-3-658-05353-6 accessed 5 August 2015.

[3] L. Lessig, *Code: Version 2.0* (Basic Books 2006).

[4] M. Hildebrandt, 'Legal and Technological Normativity: More (and Less) than Twin Sisters' (2008) 12 *Techné: Journal of the Society for Philosophy and Technology* 169; M. Hildebrandt, 'The Force of Law and the Force of Technology' in M.R.P. McGuire and T. Holt (eds), *The Routledge International Handbook of Technology, Crime and Justice* (Routledge 2017) https://www.bookdepository.com/Routledge-International-Handbook-Technology-Crime-Justice-M-R-P-McGuire/9781138820135 accessed 5 July 2016.

[5] R. Leenes, 'Framing Techno-Regulation: An Exploration of State and Non-State Regulation by Technology' (2011) 5 *Legisprudence* 143.

[6] M. Kranzberg, 'Technology and History: "Kranzberg's Laws"' (1986) 27 *Technology and Culture* 544.

[7] J. van den Hoven, P.E. Vermaas and I. van de Poel (eds), *Handbook of Ethics, Values, and Technological Design: Sources, Theory, Values and Application Domains* (2015 edition, Springer 2015).

[8] P.-P. Verbeek, 'Materializing Morality: Design Ethics and Technological Mediation' (2006) 31 *Science, Technology, & Human Values* 361.

the design in **democratic participation and legislation** while ensuring **contestability** as core and actionable values of legal protection.

5. LPbD should also not be confused with **'legal by design'**,[9] which refers to a specific type of techno-regulation, whereby legal norms are e.g. translated into code or into the design of computing systems such that compliance become automated or semi-automated. Think of self-executing code as in smart contracts or smart regulations, or data-driven techniques for prediction of judgments deployed to make decisions.

6. This Project takes the position that legal norms cannot apply themselves and require interpretation, thus enabling contestation. This is why we believe that **'legal by design' is an oxymoron.**[10]

7. This Research Study actually aims to explain what legal protection is afforded by a text-driven ICI, thus raising the question how the text-driven design contributes to legal protection

2.4.1 The COHUBICOL Project proposal

In the Cover Page Summary and Abstract we read that:

> The intermediate goals are an in-depth assessment of the nature of legal protection in text-driven law, and of the potential for legal protection in data-driven and code-driven law.

The proposal explains the role of the concept of LPbD as follows:

> The third concept that will inform the analysis is that of *legal protection by design*, not to be confused with 'legal by design'.[11] The latter refers to code-driven law that includes its own automated execution, thus conflating legislation, interpretation/execution and adjudication, for instance by way of a blockchain application. With Brownsword,[12] I would argue that 'legal by design' is an oxymoron, as our current notion of law assumes that we are capable of disobeying its normative force. A 'law' that cannot be disobeyed is not law but discipline or administration. *Legal protection by design*, on the other hand, takes note of the fact that data- and code-driven law have a different normative force than text-driven law, because they can actually force our hand (code-driven law) or predict legal outcome without providing arguments (data-driven law). *Legal protection by design* obligates those who build the architectures and applications of computational law to develop these systems in ways that reinstate the kind of protection that is pivotal for the Rule of Law: it will for instance require the testability of these systems as a precondition for the contestability of their output (e.g. stipulating open source software); it will require default settings that introduce procedural checks and balances, compensating for inequalities or unfair distributions (e.g. detecting problematic bias in training data or algorithms). Based on the different *affordances* of text-driven and computational law, the research will thus develop new ways to think about legal protection, aiming to ensure that law's new *modes of existence* will not escape the core safeguards

---

[9] P. Lippe, D.M. Katz and D. Jackson, 'Legal by Design: A New Paradigm for Handling Complexity in Banking Regulation and Elsewhere in Law' (2015) 93 *Oregon Law Review* 833.

[10] M. Hildebrandt, *Law for Computer Scientists and Other Folk* (Oxford University Press 2020), chapter 10.

[11] P. Lippe, D. M. Katz and D. Jackson, 'Legal by Design: A New Paradigm for Handling Complexity in Banking Regulation and Elsewhere in Law' (2015) 93 *Oregon Law Review* 833.

[12] R. Brownsword, *Rights, Regulation, and the Technological Revolution* (Oxford University Press 2008).

> of the Rule of Law – even if that means reconstructing such safeguards in the computational architecture of law's novel technological embodiment by means of *legal protection by design*.

The role of the concept in relation to text-driven law is further explained:

> The foundational impact on legal methodology is validated in part by the intermediate focus on legal protection in text-driven and data- and code-driven law. Developing an understanding, on the cusp of law and computer science, of the type of conditions that must be met for computational law to offer genuine and effective legal protection will contribute to testing and pruning the novel conceptual tools as well as the ensuing new hermeneutics. This way the research will also contribute more concretely to the innovation of legal method, for instance by figuring out how **the upcoming legal obligation of data protection by design (as an instance of legal protection by design)** can be an effective legal condition for legitimate processing of personal data.

The bold part of the quotation refers to the relevance of the GDPR's art. 25 that instantiates a legal obligation to engage in 'data protection by default and by design'. The current proposal of the EU Artificial Intelligence Act has many instances where developers and providers of AI systems are required to build legal protection into their systems, for instance in art. 14.3(a) which requires the provider to ensure built-in human oversight – insofar as technically feasible, and art. 15 which straightforwardly requires providers to ensure that their AI systems have been designed with built-in accuracy, robustness and cyber security. Similarly, the obligation to keep logs for both providers (art. 12, 20) and users (art. 16(d)) can be seen as a typical obligation of LPbD as it contributes to accountability.

This also relates to contributions of the side of computer science:

> While further developing the notion of legal protection by design this research will introduce the concept of **effective testability for artificial legal judgment and self-executing legal code.** Such testability will be investigated as a new articulation of the legal requirement that decisions concerning human beings should in principle be contestable. The investigation into such testability requires close collaboration between legal scholars and experts in data science and encryption. It is, for instance, related to the interpretability problem in machine learning and more generally to the opacity problem in algorithmic decision-making.[13]

This points to the particular kind of collaboration this project develops between lawyers and computer scientists:

> The challenge will be to discuss, test and develop examples of legal protection by design without actually building applications of computational law. This implies that we move into the realm of speculation, through thought experiments and counterfactual exploration, though not in the sense of freewheeling fantasy. Quite on the contrary, building on the findings of the second year, the lawyers will interrogate the computer scientists about the kind of protection that can be designed given the assumptions of machine

[13] B. Lepri and others, 'Fair, Transparent, and Accountable Algorithmic Decision-Making Processes' [2017] *Philosophy & Technology* 1.

learning and blockchain applications and the implications they generate.[14] They will, for instance, inquire how discrimination aware data mining could resolve some types of problematic bias, or how different ways of gathering training data affects the output of quantified legal prediction, or how Van der Lei's first law of medical informatics would apply to legal informatics.[15] The computer scientists will develop their own questions as well as propositions, for instance, the question of whether attempts to develop applications that give reasons for their output would count as them 'giving explanations' in the legal sense, or a proposition for enhancing legal prediction software with different types of algorithms that generate different outcomes for the same training set, thus enabling multi-interpretability. The generic aim of the research in these years is to develop a set of architectural requirements that afford testability, interpretability and contestability. This confirms the normative position this project takes, as such requirements should afford a mode of existence for computational law that respects the central tenets of the Rule of Law where it comes to automated decisions that have a significant effect on the capabilities of the human beings they affect.

2.4.2 *Smart Technologies and the End(s) of Law*

In chapter 10, I discuss LPbD:[16]

> The argument is that without LPbD we face the end of law as we know it, though – paradoxically – engaging with LPbD will inevitably end the hegemony of modern law as we know it. There is no way back, we can only move forward. However, we have different options; either law turns into administration or techno-regulation, or it re-asserts its 'regime of veridiction' in novel ways.

The chapter then teases apart two interactions between law and technology. First it explains about the need for technology-neutral law, and why, paradoxically, it requires technology-specific law to achieve such neutrality:[17]

Paradoxically, technology-neutral law requires technology-specific law to achieve such neutrality

> In other work we have evaluated the arguments that have been made for technology neutral law by regulators, business and legal scholars.[18] The arguments can be grouped together under three different objectives: first, the innovation objective that aims to prevent technology specific regulation as it might unfairly constrict the field or the development of specific technologies, thus interfering with the freedom to conduct a business; second, the sustainability objective that aims to prevent legislation from becoming outdated all too soon, because the changes in the technological landscape

[14] For some initial work in this vein, see L.E. Diver, *Digisprudence: Code as Law Rebooted* (Edinburgh University Press, 2022) (note that this reference did not appear in the project proposal).

[15] F. Cabitza, D. Ciucci and R. Rasoini, 'A Giant with Feet of Clay: On the Validity of the Data That Feed Machine Learning in Medicine' [2019] *Lecture Notes in Information Systems and Organisation* 121.

[16] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015), p. 214.

[17] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015), pp. 215–16.

[18] M. Hildebrandt and L. Tielemans, 'Data Protection by Design and Technology Neutral Law' (2013) 29 *Computer Law & Security Review* 509.

> make it ineffective with regard to the goal it was supposed to serve; and third, the compensation objective that aims to redress erosion of the substance of a fundamental right which occurs as a side-effect of a new technology.
>
> (…)
>
> In this chapter we focus on the compensation objective, to explain why technology specific law may sometimes be necessary in order to sustain the neutrality of the law with regard to emerging technologies. Neutrality means here that the mere fact that a new ICI is emerging should not diminish the substance and effectiveness of legal protection. This aligns with the approach Nissenbaum has developed in her decision heuristic with regard to contextual integrity,[19] investigating whether and how a new socio-technical practice infringes existing values. This entails taking a prudent but not a prudish position with regard to norms and values such as privacy or contextual integrity. The approach is prudent in so far as it focuses on existing rights or values, not necessarily advocating new ones. It is not prudish because it recognizes that to defend and preserve these values or rights, their substance and effectiveness must be evaluated in the light of the relevant new technologies, taking into account that the design of such technologies makes a difference for the values and the legal norms they enable or overrule. To some extent, we must accept that a new ICI may induce a reconfiguration of our norms and values; the point is that a reconfiguration should not go so far as to erase the substance of existing values merely because that fits new business models or more efficient administration. From the perspective of law in a constitutional democracy, we can add that legal norms are enacted or condoned by the democratic legislator and changing their scope should not be done without involving the constituency that is at stake.

An altogether different – though nevertheless related – question is whether there can be such a thing as technologically neutral law:[20]

> In Chapters 7 and 8 we saw that modern law has thrived on the affordances of the printing press. Text formats the extended mind of the lawyers; it feeds on an external memory and a systematized archive that comprises of codes, treaties, statutes, case law, doctrinal treatises and theoretical reflection. The proliferation of legal text has invited and enabled abstraction, complexity and systemization. It has generated the need for reiterative interpretation, paradoxically inviting both contestation and authoritative closure. Hesitation, doubt and consideration are situated in the heart of the law, instituting the antagonistic prerequisite for the competence to enact legislation and to issue a verdict. Written law externalizes legal norms, thus making contestation possible and final decisions necessary. This has led me to claim that law is not technologically neutral; its characteristics are contingent upon the ICI that mediates its verdict – its 'regime of veridiction' – and its mode of existence. As argued in Chapters 7 and 8, we cannot assume that the ICI of pre-emptive computing has affordances similar to those of the printing press.
>
> This requires a rethinking of the legal embodiment of the law in an onlife world, since we cannot expect to regulate our new world via a law that is entirely inscribed via the ICI of a previous era. Re-articulation of the law in the emerging ICI will be necessary in so far as we wish to re-establish the fundamental

[19] H. Nissenbaum, *Privacy in Context: Technology, Policy, and the Integrity of Social Life* (Stanford Law Books 2010).
[20] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015), pp. 217–18.

> rights developed in the era of the printing press. This does not mean that written law can be discarded. On the contrary, the externalization of legal norms that makes them contestable and enforceable should be preserved. But the nature of written law will somehow change. The spoken word did not disappear when we started writing, nor did unwritten law lose its bearing when written law became dominant, though some lawyers may deny that unwritten law has the force of law (law remains an essentially contested concept). What matters here is that the spoken word and unwritten law were transformed by their relationship with text. Before the script the notion of an unwritten law did not exist; before the arrival of 'the online' there was no such thing as 'an offline'. Mozart did not think of the performance of his music as being unplugged. We may expect similar transformations of our dealings with printed matter, due to the impact of pre-emptive computing. In that sense the hegemony of modern law, contingent upon the affordances of printed text, will end once we learn how to integrate legal norms in pre-emptive computing systems. This need not be the end of law if we develop new ways to preserve what differentiates law from administration and techno-regulation.

This then raises the question how this relates to the affordances of text-driven, code- and data-driven ICIs:[21]

> The reader may believe that LPbD is an attempt to apply affordances of the script and the printing press to an ICI that has very different affordances. Such an attempt is bound to fail. Obviously affordances cannot be applied; they can be detected and to some extent they can be tweaked or designed. The attempt is to detect, configure or design affordances that are compatible with specific legal norms that might otherwise lose their force, or to develop socio-technical systems that embody specific legal norms. This should always include attention to the 'resistability' and contestability of the ensuing normativity, and should always involve testing how the configuration or design of the affordances can best serve the goals of justice, legal certainty and purposiveness. Developing a methodology of LPbD entails a vertiginous challenge to traditional doctrinal research methods within legal scholarship and to the scientific methods of computer science, requirements engineering and electronics. No one area should colonize another, but LPbD is not a matter of different disciplines exchanging ideas. The point of departure is the task of articulating compatibility with a legal norm into an architecture, protocol, standard, hardware configuration, operating system, App or grid.

2.5 The Texture of Modern Positive Law

The COHUBICOL project stands for 'Counting as a Human Being in the Era of Computational Law'. It aims to investigate the transformation of law's **mode of existence** due to the radically different **affordances** of the novel ICIs. These novel ICIs are not only the environment that law aims to regulate; in the era of computational law these ICIs rearticulate the texture of law itself. They may thus tear up the fabric of modern positive law's protection, requiring a more radical understanding of **legal protection by design**.

[21] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015), p. 218. See also the related discussion of 'digisprudential affordances' in L. Diver, 'Digisprudence: The Design of Legitimate Code' (2021) 13(2) *Law, Innovation & Technology* 325.

> …novel ICIs are not only the environment that law aims to regulate; in the era of computational law these ICIs rearticulate the texture of law itself

The legal protection that is offered by modern positive law has been text-driven, and one could say that positive law is itself designed by way of the 'technologies of the word', notably by those of the printing press. In that sense the protection it **affords** can be framed as a specific kind of **legal protection by design** that is core to its text-driven **mode of existence.** In this Research Study we seek to inquire into the mode of existence of law-as-we-know-it by taking a closer look at what legal written speech acts **afford** in terms of legal protection. We probe the texture of the text-driven normativity (TDN) that in-forms the law,[1] testing the grounds of how positive law exists – by figuring out **what it does** (with words). This will entail an inquiry into the nature of written legal speech acts, how they **make the law** and what protection they offer to whom, based on what conditions.

The next chapter will develop, analyse and integrate a small set of foundational legal concepts that define positive law. They will be grouped in small webs of meaning and discussed as interlocking notions that define each other while simultaneously in-forming the institutional legal environment they create by way of written legal speech acts: from Constitutions and Parliamentary Acts to other legally binding regulations, treaties, judgments, doctrine and the fundamental principles that are implied in them. The aim is to trace and rethink modern positive law's web of meaning in terms of the **texture or fabric of text-driven normativity** that constitutes, grounds, layers and enables it.

After inquiring into the meaning of **legal norms**, we will investigate the **Rule of Law** and **positive law**, followed by the meaning of and interaction between **jurisdiction**, **the sources of law**, and **legal effect**, next we will unpack the concepts of **legal subject**, **individual right** and **legal power** and finally we will examine the interaction between **legal reasoning and legal interpretation.** This will be a litmus test of our conceptual innovation. Will the concepts of mode of existence, affordance and legal protection by design function as a helpful prism to frame law's and the Rule of Law's indebtedness to the prevailing ICI (the technologies of text)? Will they enable us to better frame the text-driven design of positive law and what, in turn, it affords in terms of legal protection by way of text-driven design?

[1] Mireille Hildebrandt, 'Law as Information in the Era of Data-Driven Agency' (2016) 79 *The Modern Law Review* 1.

3 Foundational Concepts of Modern Positive Law

Laurence Diver, Tatiana Duarte, Gianmarco Gori, Mireille Hildebrandt and Emilie van den Hoven

> What one really needs, in each case, is a cycle of terms defining not point concepts but a structure of ideas – multiple meanings, multiply implicated at multiple levels.
>
> Geertz[1]

3.1 Introduction

In this part of the Research Study, we denote and connote **a small set of foundational concepts that ground modern positive law.** True to our understanding of the artificial nature of positive law and the open texture of its conceptual scaffolding, we vouch for the 'contrafactual' meaning of these concepts, that derives from their usage while simultaneously informing it.[2] Language usage is a rule-bound practice, taking into account the feedback loops that generate its performative effects. This implies that the 'existence' of these concepts both creates and delimits a space to perceive, order and act on the facts that make our world. Being 'contrafactual', such concepts create a vantage point from where to map, savour or reconfigure our world, without however suggesting that anything goes.

We seek to locate how law-as-we-know it produces the performative effects that guide and ground societal order, to put our finger on the way that legal protection exists.

Initially, we planned to develop a much larger vocabulary, to be integrated with the grammar to determines how these concepts can be used. In the process of digging into the meaning of the current set of concepts, however, we found that extending it to the myriad other legal concepts would produce a *lexicon* rather than the kind of constitutive layer of conceptual grounding we need to unearth. The idea of the vocabulary was to detect, identify and situate how lawyers think, what makes them 'tick', in order to highlight what law does and how. In a sense, we have been seeking to locate how law-as-we-know it produces the performative effects that guide and ground societal order, to put our finger on **the way that legal protection exists** in the context of modern positive law and the Rule of Law.

The concepts are grouped in pairs of two or three, to expose their interrelation and their interaction. We start, however, with the concept of a **legal norm**, to set the scene and prepare the ground for the subsequent notions of the **Rule of Law and positive law**, followed by **jurisdiction, sources of law and legal effect**, followed by **legal subject, individual rights and legal powers**, and we end with **legal reasoning and legal interpretation**. To better weave the web of meaning these concepts constitute, we use the prism of the three

---

[1] Clifford Geertz, 'Local Knowledge: Fact and Law in Comparative Perspective', in idem, *Local Knowlegde. Further Essays in Interpretive Anthropology* (1983), 185.

[2] R. Foqué and A.C. 't Hart, *Instrumentaliteit En Rechtsbescherming* (Gouda Quint Kluwer Rechtswetenschappen 1990); J. Habermas and W. Rehg, *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy* (Reprint Edition, The MIT Press 1998).

interrelated framing concepts: **affordance**, **mode of existence and legal protection by design**, as proposed in the previous chapter.

3.2 Legal Norm

Mireille Hildebrandt

3.2.1 Introduction

Law is often presented as **a system of legal norms** that bind those who are subject to a specific national, supranational or international jurisdiction. Legal norms differ from other types of norms, notably moral norms or physical laws, but it is not always easy to explain what makes the difference. One could point out that **physical laws** have effects that are caused, whereas legal norms have *legal effects* that are the performative effect of the written legal speech acts discussed in the previous chapter. Legal norms also differ from **moral duties** in that their legal effect does not depend on the moral inclinations of either those in charge or of those subject to the norm.

> Law is a situated adversarial dialogue based on iterant constructive re-interpretation

Legal effect is attributed by positive law, that is the entirety of legal norms that define a jurisdiction. This entirety of legal norms implies **coherence and integrity**, meaning that norms should not be contradictory and if they are it should be clear which norm overrules the other. Nevertheless, the law is not a system of static rules where logical consistence is a goal in itself. Moreover, law is not a monologue based on deductive reasoning from immutable axioms, but a situated adversarial dialogue based on iterant **constructive re-interpretation** of the relevant legal norm. With law, we are not in the realm of mathematics but rather in the realm of practical reason, grounded in experience rather than logic. Legal norms are performatives, their mode of existence depends on the adaptive nature of the language game of a particular jurisdiction and thereby on their use as a point of orientation and coordination, requiring acuity and ingenuity rather than mechanical application.

Nevertheless, to fulfil their role as *legal* norms rather than *moral* rules or *social* habits the final word on the meaning of a legal norm requires **closure**. In a constitutional democracy that final word is with the courts, in turn requiring a justification that stabilises the meaning of the norm in light of the facts of the case, while also qualifying the facts as such in the light of the relevant legal norm. As we will see in the final subsection of this chapter, this stabilisation requires that the justification takes the form of a syllogism – where the major is the legal norm, the facts form the minor and the legal effect is given by the conclusion. What should be clear is that the syllogism presents a form of deductive reasoning that is only possible after the constructive interpretation of both the norm and the facts, taking into account the entirety of the legal system that applies in a specific jurisdiction. The syllogism is not a methodology to find the law (context of heuristics) but the justification of a decision about a concrete case (context of legitimisation). Obviously, however, the constraints imposed on the context of heuristics by the syllogism restrict how a legal norm can be interpreted and how the facts can be qualified.

3.2.2 Legal Norm: working definition

1. A legal norm is a norm that attributes a specified legal effect whenever specified legal conditions are fulfilled.
2. A legal norm is a specific type of rule taking the form of 'if this then that', where 'that' always concerns a specified legal effect.
3. Legal norms bind legal subjects and define the relationships between legal subjects.
4. A legal norm differs from a physical law that describes regularity or causality, e.g.
    1. Apples fall downwards from a tree, not upwards.
    2. Due to gravity, an apple will fall towards the earth.
    – The legal norm could be: 'If an apple falls to the ground, it will be punished with xyz', but for the fact that apples are not considered legal subjects and therefore cannot be punished.
5. A legal norm differs from a moral norm or a threat in that it stipulates a legal effect rather than merely obligating or trying to influence.
6. 'Don't hit another person' in itself is not a legal norm but a moral obligation.
7. 'I will hit you if you hit me' is not a legal norm but a threat.
    – The legal norm here would be 'Whoever hits another (…) may be punished by xxx.'
8. A legal norm is always part of a specific national, supranational or international jurisdiction that defines positive law within that jurisdiction.
9. A legal norm is derived from the sources of the law, and its application and interpretation depend on:
    - the context of the rule within the sources of law;
    - the context of the facts to which it is applied;
    - relevant legal principles implied in the relevant jurisdiction.
10. Legal norms take the form of a rule, but the legal principles that are implied within the relevant jurisdiction also have binding legal force, they co-determine the application and interpretation of the norm:
    - 'Whoever commits a tort must pay damages if certain conditions are fulfilled' has the character of a rule;
    - Unwritten constraints such as the need to act based on 'good faith', 'reasonableness', 'trustworthiness', 'fair play, or 'proportionality' have the character of a principle.
11. Legal norms are sometimes classified as either 'primary or regulative rules' that prescribe or prohibit conduct ('don't steal'), or 'secondary or constitutive rules' that constitute the recognition, change or adjudication of primary rules ('whoever steals may be punished with maximum 4 years of detention').
12. Secondary norms attribute legal powers to recognise, change or adjudicate primary rules (the power to impose punishment, to conclude a contract, to get married, to legislate).
13. Deciding the meaning of a legal norm in a concrete case requires legal reasoning and legal interpretation. Even if the meaning seems evident, it is never given but always attributed.

14. The Rule of Law entails that legal norms provide legal certainty, justice (in the sense of treating equal cases equally and inequal cases unequally to the extent of their inequality), and purposiveness (being instrumental in serving goals set by the democratic legislature).

3.2.3 Examples of how 'legal norm' is used

The legal norm that **killing another person** is prohibited is a primary rule that is implied in the legal norm that killing another person is punishable with maximum detention of 4 years, which is a secondary rule. The latter norm recognises the former; it attributes the legal power to punish to the courts.

The legal norm that **a valid contract** must be performed may be enforced by the legal norm that failure to perform may result in an obligation to pay compensation due to breach of contract.

The legal norm that **renovation of one's house** requires a building permit is part of administrative law and may be enforced by way of a legal norm that imposes a fine or allows for an order to undo the renovation.

The Rule of Law means that legal norms cannot be applied in an **arbitrary manner**, based on the whims of a government official or depending on the benevolence of a judge.

3.2.4 The meaning of 'legal norm' in terms of MoE, affordance and LPbD

3.2.4.1 Mode of Existence (MoE)

How do legal norms exist? Their way of existing, or *mode of existence,* clearly differs from that of a chair, a rock or a human being. We may be tempted to see chairs, rocks and human animals as physical objects or brute facts, whereas legal norms seem to be mental objects or institutional facts, existing in the minds of individual human beings. As discussed in chapter 2, this Project takes another view of the way that chairs, rocks, human beings and legal norms exist.

One could say that in the end all these 'objects' are both material and mental. Not only because mental objects like legal norms can only exist in the **embodied mind** of human beings, but also because to identify a chair or a rock as such again requires an embodied mind, i.e. a 'linguistic body'[1] or a 'language animal'.[2] Without human beings who speak of chairs, the object would cease to exist as a chair. Next to the embodied nature of institutional facts such as legal norms, we must also admit that 'things' like legal norms cannot exist as separate entities in individual human brains, since their meaning derives from the shared linguistic practice that affords the use of legal norms as points of reference for human interaction. Legal norms, therefore, are not only embodied but also **relational** and 'exist' as it were inbetween human beings.

[1] E.A. Di Paolo, E.C. Cuffari and H. de Jaegher, *Linguistic Bodies: The Continuity Between Life and Language* (2018).

[2] C. Taylor, *The Language Animal: The Full Shape of the Human Linguistic Capacity* (Belknap Press: An Imprint of Harvard University Press 2016).

The inbetween nature of legal norms (and indeed all other institutional facts) raises the question of the **materiality of legal norms**; if they are embodied but not contained within the 'skinbag' of individual human beings,[3] where are they? This is what happens if we confuse materiality with physicality in the Cartesian sense of the term. The point is to remind ourselves of the fact that language is embodied in *interacting* human beings who speak the same language, based on shared practices and tacit background knowledge. The language both constitutes what people can say and is constituted by what people actually say, there is no chicken or egg here.

'Things' like legal norms cannot exist as separate entities in individual human brains, since their meaning derives from shared linguistic practice

Because legal norms are enacted as **written legal speech acts**[4] combined with the unwritten principles that are implied in the entirety of legal norms within a jurisdiction, their mode of existence is text-driven and thereby firmly grounded in natural language. Clearly, in oral societies, 'legal' norms are not text-driven, though nevertheless based in speech. The type of 'law' that is possible in oral societies is very different from that of societies informed by handwritten manuscripts and even more different from our own, which is rooted in the technologies of the printing press.[5] The latter allowed a proliferation of externalised written legal speech acts that in turn generated issues of interpretation, enabling contestation, which in turn required new ways to achieve closure. Modern positive law incorporates all of this by way of legal remedies, court procedures, adversarial trials and – finally – the legal effect of the courts' decisions. The division of tasks between legislature, public administration and courts provide a specific kind of protection against arbitrary exercise of military, punitive or economic power. This protection is core to the Rule of Law.

Legal norms exist as **institutional facts**, being the result of performative written speech acts and the implied principles that guide their interpretation. However, the nature of these institutional facts differs from that of, for instance, the legal effect that may be attributed based on a legal norm. We can say that legal norms are *institutional facts capable of creating specified institutional facts*, such as rights, obligations, legal status or legal powers. In turn, legal powers may afford the holder of such powers to create new legal norms. Think of the legislature that has the power to enact Acts of Parliament, or individual legal subjects who can conclude contracts or institute a not-for-profit association with dedicated bylaws. Here we see the difference between primary and secondary rules: a primary rule stipulates the creation of institutional facts; a secondary rule provides the legal power to do so.

The meaning and performative effects of legal norms depend on the interaction between human beings.

---

[3] A. Clark, *Natural-Born Cyborgs. Minds, Technologies, and the Future of Human Intelligence* (Oxford University Press 2003).

[4] M. Hildebrandt, 'Text-Driven Jurisdiction in Cyberspace' https://osf.io/jgs9n/ accessed 22 May 2021.

[5] Even written speech acts are embodied, in the sense of what Wolf has called 'the reading brain', which turns out to be reconfigured both in terms of its morphology and in terms of its behaviour, as compared with the brain of a person who does not read, cf. M. Wolf, *Proust and the Squid: The Story and Science of the Reading Brain* (Icon Books Ltd 2008).

In short, the mode of existence of legal norms is grounded in natural language, and based on written legal speech acts. Even when carved in stone, their meaning and performative effects depend on the interaction between human beings. This interaction is a matter of language use and thereby highly adaptive, contestable and capable of providing closure. The interpretation of legal norms is not a matter of mechanical application – even if logic plays an important role in the justification of a decision. The closure that is provided is not a matter of **brute force** – even if such closure ultimately depends on the monopoly of violence. In other words, the mode of existence of legal norms, and the stuff they are made of, affords a kind of legal protection that cannot be reduced to either logic or violence.

3.2.4.2 Affordance

Legal norms as-we-know-them are an affordance of the **information and communication infrastructure (ICI)** of the printing press; they have been made possible by written legal speech acts. The fact that legal norms have developed as such was neither 'determined' nor 'caused' by the proliferation of printed text, but it was definitely an 'affordance' of written legal speech acts. One could say that legal norms have grown into the kind of resilient, robust and reliable mechanisms that they now are, due to myriad interactions that were enabled/afforded by the **distantiation** that is inherent in printed text. The fact that people feel compelled by the obligations and prohibitions of the law, also when they are not forced to obey by way of brute force, indicates the curiously fragile and simultaneously robust nature of legal norms.

This raises the question of whether written legal norms have different affordances in terms of coordinating, constraining, and enabling human interaction compared to, for instance, brute force, economic power and religious ritual. In oral societies the norms that hold together the community are not constraint or enabled by written but by oral legal speech acts, whose performative effect depends on ritual, physical force and on economic power rather than a monopoly of violence and a coherent system of externalised written norms.[6] Could it be that the written nature of legal norms affords a kind of protection that is grounded in the fact that the norm has been **externalised** and – as it were – fixated in a way that allows people to refer to it when they give reasons for their actions, while also allowing them to refer to the written version of the norm when addressing others, for instance when instructing them or when holding them to account? Does the written nature of the norm create a kind of freedom by making people aware of the norms they are bound by? Does the **abstraction** that is stimulated by writing and further extended by the printing press create a distance between those who address each other as subject to norms, such that the norm can be reflected upon and challenged, creating a new kind of abstract space where both the content and the validity of norms can be discussed, challenged and changed? Is the rise of Hart's secondary rules dependent on the rise of the printing press? Could it be that the idea that we have the power to **change** the norms that bind us, is an affordance of a specific ICI?

[6] M. Sahlins, *Stone Age Economics* (Tavistock 1974); C. Geertz, 'Local Knowledge: Fact and Law in Comparative Perspective' in Clifford Geertz (ed), *Local Knowlegde. Further essays in interpretive anthropology* (Basic Books 1983); P. Glenn, *Legal Traditions of the World: Sustainable Diversity in Law* (2014).

> Print affords two types of freedom: to *enact* legal norms, and to *challenge* their meaning and their binding force

In his seminal work, Patrick H. Glenn has convincingly demonstrated the crucial importance of the idea that norms themselves can change.[7] He described the seven legal traditions of the world in terms of – amongst others – their relationship to time and change, showing how our idea of **'making law'** is dependent on a specific understanding of time. Instead of experiencing time as being circular, we live in a linear time space, we create futures and test their salience. One could say that the ICI of the printing press invited a particular cybernetics (remote control via feedback loops): enacting written legal speech acts that create feedback loops between what they prescribe and how people actually interact. We believe that creating, recognising or changing the norms that bind us gives us control over the future we share. Positive law asserts that legal norms are made and changed by humans, not given by either nature, reason or the gods. This creates two types of freedom: the freedom to enact legal norms as we wish, and the freedom to challenge both their meaning and their binding force. This again raises the question of whether legal norms embedded in data- or code-driven systems afford the same kinds of freedom, and – equally important – who obtains those freedoms: human legislators, a democratic legislature, or the developers and/or providers of software code.

3.2.4.3 Legal Protection by Design

Legal norms as-we-know-them afford protection due to the **multi-interpretability** that is inherent in natural language and massively extended with the proliferation of printed text. The multi-interpretability affords **contestability** which offers a specific type of protection to those subject to legal norms; they can contest the interpretation of the norm that is implied in the acts or decisions of others, and they can thereby contest how their own actions are qualified in light of the norm, for instance, as a criminal offence, a tort, or as a breach of contract. The multi-interpretability creates the need for interpretation but also the need for **closure**, to enable those sharing a jurisdiction to plan their life. The combined need for interpretation and closure has resulted in a specific system of checks and balances, where different powers of the state are instituted as countervailing powers: legislature, administration and courts. It is within this system of checks and balances that legal norms as-we-know-them developed into hallmarks of both legal certainty and protection against arbitrary rule.

[7] P. Glenn, *Legal Traditions of the World: Sustainable Diversity in Law* (2014).

Legal protection must be deliberately designed into the architecture and the kind of choices 'users' can effectively and practically make

To the extent that modern positive law offers protection by way of the legal effect that is attributed by legal norms, one could argue that this protection was not 'designed' but rather a side-effect of the text-driven nature of legal norms. The protection, in other words, was an affordance that was not deliberately engineered to offer 'legal' protection. Just like the walls of a house were not deliberately built to protect our privacy, even though they do afford a specific type of privacy. In the latter case, we have discovered that these affordances no longer hold when people connect with social networks via their personal computers or mobile devices, even when at home. The information they share becomes visible to a number of people, depending on the architecture and choices made available by the social network provider. To achieve a level of privacy comparable to that offered by the walls of a house, the protection must be deliberately designed into the architecture and the kind of choices 'users' can effectively and practically make. This has been called 'privacy by design' and in the context of the General Data Protection Regulation providers now have a legal obligation to practice 'data protection by default and by design'. The notion of 'legal protection by design', of which data protection by design is an instance, would then be based on a generic obligation to always develop computing systems in such a way that the substance of fundamental rights (or other legally protected private and public goods) is protected at the level of the design/architecture/settings of these systems. One could argue that such is the intent of the proposed EU AI Regulation: to ensure that AI systems are developed in a way that foresees and mitigates interferences with fundamental rights.

3.2.5 The texture of text-driven normativity

In this section we will attempt to describe **the texture, the fabric, the materiality** of text-driven normativity in terms of the mode of existence of legal norms, what affords them and what they in turn afford, with an eye to legal protection (by design).

Modern positive law is an open system of legal norms that have binding force for legal subjects that share a jurisdiction. Legal norms are articulated in natural language and in the case of positive law they are embedded in text. Based on speech act theory we can say that **speaking is acting**, and we add that such action is embodied. Written speech acts are embodied insofar as humans do the writing or the printing, the result is not embodied but embedded (e.g. on a piece of paper or a screen). The materiality of law can be found in the embodiment of natural language and in the embedding of written law in the technologies of text.

The embodiment of natural language is not only a matter of speaking or writing, but also a matter of perception as we perceive the world through the lens of one or more specific languages,[1] and also a matter

[1] J.A. Lucy, 'Sapir-Whorf Hypothesis' in J.D. Wright (ed), *International Encyclopedia of the Social & Behavioral Sciences (Second Edition)* (Elsevier 2015) http://www.sciencedirect.com/science/article/pii/B9780080970868520170 accessed 8 June 2019.

of our memory which is made up of past experiences and framings that are continuously sorted, stored and reconfigured in light of upcoming challenges.[2]

Text enables us to not only remember a legal norm by recalling it but also by retaining it outside our body, on a piece of paper or in a computing system, to remind us of its precise articulation. Building on Husserl, Bernard Stiegler spoke of **'tertiary retention'**.[3] Primary retention concerns the temporary retention of visual, auditory, tactile and olifactory input; it involves the flux of incoming signals that must be bridged and connected with each other in a way that affords us to 'make sense' of our environment. Such primary retention affords us the intuitive ability to navigate the space-time we inhabit. Secondary retention concerns the layered and interactive storage of past experience, ready for recall and reconfiguration, woven together in light of further experience, thus in-forming (moulding) primary retention, attributing meaning based on the particular language frame(s) that do the sorting and welding, thus affording us to also navigate our institutional world. As one can imagine, the materiality of tertiary retention has another mode of existence than first and secondary retention, as it concerns inscriptions on external carriers – whose content, however, infuse and reconfigure our secondary and primary retention.

In the case of law, tertiary retention makes a difference to the kind of fabric that can be woven between those who share jurisdiction. Because it affords a much broader reach of the norm, both in time and in space, it affords large jurisdictions. As legal norms proliferate and cover more ground, however, it becomes crucial to prevent contradictions and to interpret any legal norm in such a way that is aligns with the other legal norms that are in force. The need to resolve contradictions invites the systematic character of the law as a complex and **dynamic hierarchy** of applicable legal norms, where the difference between Hart's primary and secondary norms afford a multi-dimensional **architecture**. It induces a tightly woven but nevertheless flexible texture of interacting legal norms that can only be properly understood if their interrelationships are charted and mapped. This – in a way – explains the mode of existence of modern positive law as an adaptive system of legal norms that is both in flux and reasonably stable, inherently contestable while capable of closure.

The ambiguity of natural language safeguards the open texture of the interplay between written legal norms and their development in real life contexts

The tension between the contestability and the need for closure affords the dedicated system of checks and balances that is core to the Rule of Law. Legal norms do not exist in a vacuum, they cannot be understood outside the interplay between the **intra-linguistic coherence** of written legal speech acts and the **extra-linguistic world** they regulate by attributing legal effect. The ambiguity of natural language safeguards the open texture of the interplay between written legal norms and their development in real life contexts.

---

[2] P. Ricoeur, *Memory, History, Forgetting* (K. Blamey and D. Pellauer trs, Chicago University Press 2004) http://www.press.uchicago.edu/ucp/books/book/chicago/M/bo3613761.html accessed 4 November 2015; S.C. Koch and others, *Body Memory, Metaphor and Movement* (John Benjamins Publishing Company 2012).

[3] B. Stiegler, 'Die Aufklaerung in the Age of Philosophical Engineering' in M. Hildebrandt, K. O'Hara and M. Waidner (eds), *The Value of Personal Data. Digital Enlightenment Forum Yearbook2013* (IOS Press 2013) http://www2012.wwwconference.org/documents/Stiegler-www2012-keynote.pdf.

Though this development is constraint by the wordings chosen by legislatures and courts, in the end it is shaped by how those who share jurisdiction interpret these wordings. The development of law is thus shaped by the performative effect that is afforded by these wordings – which effect is neither causal nor mechanical but constitutive of the meaning of the legal norms involved.

Legal protection as-we-know-it hinges on the tension between contestability and the need for closure that defines modern positive law. This tension must be sustained rather than resolved. It must be sustained in a way that protects against arbitrary decision making while nevertheless providing legal certainty. We have spent centuries to grow, nurture, cultivate and refine modern positive law and it is not in any way perfect, completed or finished. It requires continuous repair, reinvention and reconfiguration, while the implied goals of legal certainty, justice and instrumentality vouch for an uneasy mode of existence that cannot be taken for granted. The protection offered is a fragile artificial construct that requires acuity rather than mathematical precision, judgement rather than calculation and, in the light of data- and code-driven law, it will require keen attention to law's current technological embodiment in the technologies of printed text.

Legal protection as-we-know-it hinges on the tension between contestability and the need for closure that defines modern positive law. This tension must be sustained rather than resolved

3.2.6 Anticipating legal protection under data- and code-driven normativity

Anticipating how legal protection may be transformed in the case of data- and code-driven normativity we need to be in the clear about what those terms mean. This is the subject of the Research Study on Computational Law. Here we provide a preliminary working definition:

A. **data-driven normativity in law** refers to the integration of machine learning approaches, such as prediction of judgments and search and optimisation methods into the practice and the study of law, leaving in the middle whether and if so under what conditions such 'law' actually qualifies as law.

B. **code-driven normativity in law** originally referred to the integration of smart contracts and smart regulation (both of them based on blockchain technologies) into the practice of law, again leaving in the middle whether and if so under what conditions such 'law' actually qualifies as law. We have extended our research to other types of code-driven law, such as logic- and knowledge-based approaches, notably including 'rules as code' and 'interoperable digital law'.

Based on the previous analysis we raise the following questions that should feed into the second COHUBICOL Research Study:

1. What kind of protection, afforded by text-driven legal norms, may be diminished or transformed in the case of data-driven 'law'?
2. What kind of protection, afforded by text-driven legal norms, may be diminished or transformed in the case of code-driven 'law'?

3. To what extent and in what sense could 'protection by design' be qualified as articulating *legal norms*?
4. Does 'legal protection by design' mean that the legal norm itself is implemented in the architecture of the system, implying something like 'legal by design'?
5. Could computing systems produce *digital legal speech acts* that express legal norms that in turn result in institutional legal facts such as a transfer of ownership?
6. If legal norms are written in both natural language and in computer code, which should prevail if the interpretation of the natural language differs from the interpretation developed in the code?
7. How can those subject to law contest the interpretation of the natural language if it was the legislature that enacted both the natural language and the code version of the relevant legal norm?
8. What may be the consequences of attributing legal effect to self-executing code or to legal norms written in code?
9. What does is mean for the mode of existence of legal norms if legal effect were to be given to predictions of judgment by data-driven systems?
10. How could computational legal search, based on 'natural language processing', affect the development of legal norms?

3.3 Rule of Law and Positive Law

Gianmarco Gori

3.3.1 Introduction

The Rule of Law and positive law are united by a common history in the course of which they have woven a strong conceptual relation. The dynamic and productive substance of such concepts is proven by their capacity to adapt and provide a vocabulary adequate to express and address the evolving needs of different historical and political sensitivities. At the same, they have preserved an essential core: as a tradition, they have generated continuity in discontinuity.

In the following sections we will outline how the mutually constitutive mode of existence of such concepts both relies on and is in its turn productive of different affordances. The analysis will be oriented by the concept of legal protection. The central role that such a concept plays within the framework of the Rule of Law and positive law should help bringing to the fore the most salient features of positive law, bonding together the affordances which depend on the linguistic nature of law. At the same time, the concept of legal protection highlights the role played by the meaningful interactions through which law comes into being and exerts its normative force.

Such an approach aims at contributing to the fine tuning of a vocabulary which allows us to understand the changes in legal practice brought about by the development and deployment of code- and data-driven technologies.

3.3.2 Rule of Law

3.3.2.1 Working definition

1. The Rule of Law (*état de droit*, *Rechtsstaat*) is the implied philosophy of modern positive law.
2. It refers to the institutionalisation of checks and balances within the state, making sure that countervailing powers keep each other in check, thus preventing arbitrary exercise of public power.
3. The difference between Rule of Law and rule by law refers to the difference between, on the one hand, a law that is both an instrument of public policy and an instrument of protection and, on the other hand, a law that is nothing but an instrument to achieve public policy goals.
4. Rule of Law implies legality, meaning that state powers can only be exercised within the bandwidth of the power attributed for specified and legitimate purposes, taking into account human rights while respecting independent judicial review. Rule by law may refer to legalism, where state powers can be and must be exercised in accordance with the will of the legislator, or to absolutism, where the state has discretionary powers to achieve their objectives as long as these powers have been attributed in accordance with specified procedures.
5. In Anglo-American legal philosophy Rule of Law is often equated with conditions such as accessibility, clarity, generality, non-contradiction, non-retroactive application, feasibility and foreseeability, coupled with the notion of an independent judiciary (Fuller). A difference is often made between a thin and a thick version, depending on whether conditions are more formal or more substantive. In the latter case more attention is given to human rights protection, including

social and cultural rights. Others, however, pay keen attention to rights of contestation against the state (Dicey), and to procedural conditions that enable contestation and argumentation as core to the Rule of Law (Waldron), and to formal characteristics that can constrain what a legitimate legal rule can possibly be (Wintgens).

6. In continental European legal theory the *Rechtsstaat* or *Etat de Droit* can similarly be seen in a more formal or substantive way, with keen attention to the extent to which the powers of the state are limited, including the question of whether states have positive obligations to ensure respect for human rights in both the public and the private sphere.
7. Note that the Rule of Law, including the protection of human rights depend on positive law.
8. In the context of COHUBICOL we take a substantive and procedural perspective on the Rule of Law, integrating a formal perspective in a way that embraces legality while rejecting both legalism and arbitrary rule, incorporating 'practical and effective' protection of human rights and access to an independent court to ensure the contestability of actions or decisions in the public or private sphere that may violate rights or obligations.

3.3.2.2 Examples of how 'Rule of Law' is used

The concept of the Rule of Law is invoked in circumstances which can be distinguished according to a horizontal and vertical dimension.

In a horizontal dimension, the Rule of Law assumes central relevance in the context of disputes which disturb the countervailing powers of the legislature, public administration and the judiciary. If a legislature were to pass legislation which undermines the independence of the judiciary this would violate the Rule of Law. For instance, attributing to the government the power to remove judges, or excluding some administrative acts from judicial scrutiny would violate the Rule of Law.

The Rule of Law has both horizontal and vertical dimensions

In a vertical dimension, the Rule of Law is invoked in connection to the legal constraints which inform the relations between legal subjects and the State. For instance, a Dutch court declared to be unlawful legislation which grants to the administration the power to develop and use AI technologies for the detection of social benefit fraud. The court found this to be a violation of the right to private life. Despite acknowledging the legitimacy of the aim pursued (fraud detection), the court found that the legal provisions did not define with sufficient clarity the limits of the power of the administration and did not provide adequate safeguards against potential abuse. The court stressed that, whereas the provisions are adopted in the form of an Act of Parliament, which could be seen as respecting formal legality, a substantive understanding of the Rule of Law requires the legislative and administrative powers to comply with the constraints imposed by the principle of substantive legality. Under the Rule of Law, the obligation to respect the substance of the right to private life involves that courts are entrusted with the power to provide legal subjects with effective remedies that may even result in nullification of statutory provisions.

3.3.2.3 The meaning of 'Rule of Law' in terms of MoE, affordance and LPbD

3.3.2.3.1 Mode of Existence

The doctrine of the Rule of Law represents a response to a set of challenges which surfaced with the transition from the Medieval order to the modern State and the development of the modern concept of positive law. While the Medieval order was characterized by the coexistence of a plurality of concurring sources of political and legal authority, the modern State emerged through a process which led to the gradual centralization of power in the hands of a sovereign and the identification of law with the orders issued by the latter.[1] The doctrine of the Rule of Law is characterized by a dual assumption: political pessimism and normative optimism.[2] As much as a strong political power is considered an indispensable precondition for the establishment and maintenance of a stable order and, therefore, for granting protection to individuals, it also represents a threat for the latter: the more power tends to be concentrated, the more the risk of its arbitrary use.[3] Law is presented as the way out of such aporia: the inherent dangers of power can be addressed by channelling it through the forms of law, thereby making it predictable, stable, checkable, and contestable.

Especially from the late Eighteenth century, prompted by the advent of new constitutional experiences and by the establishment of national states, the concept of the Rule of Law became subject to a lively debate within different legal traditions[4] and inspired the design of specific institutional architectures. The various elaborations of the doctrine of the Rule of Law have been united by the common concern with the risk of arbitrary power. Moreover, the cross-influences between distinct political-legal frameworks have provided a shared vocabulary which has smoothed out many of the differences between the Continental and Anglo-American perspectives. At the same time, the very success achieved by the Rule of Law has contributed to make it an "essentially contested concept".[5] The attempts to elaborate a taxonomy of the different accounts of the Rule of Law which characterize the contemporary debate has led to the identification of thinner and thicker versions of, respectively, formal, substantive and procedural conceptions.[6]

---

[1] J. Bodin, *On Sovereignty: Six Books of the Commonwealth* (CreateSpace Independent Publishing Platform 2009); T. Hobbes, *Leviathan* (Penguin Classics 2017).

[2] D. Zolo, 'The Rule of Law: A Critical Reappraisal' in P. Costa and D. Zolo (eds), *The Rule of Law: History, Theory and Criticism* (Springer Netherlands 2007), p. 21.

[3] C. de Montesquieu, *The Spirit of the Laws*, Book XI, Chapter IV.

[4] For an analysis of the concept of *Rechtsstaat* in German legal tradition, see P. Costa, 'The Rule of Law: A Historical Introduction' in Costa and Zolo (n 2), pp. 70 ff. Concerning the French tradition, see the elaboration of the concept of *Etat du droit* by Carré de Marlberg, see R. Carré de Marlberg, *Contribution à la théorie générale de l'Etat*, Tome I (CNRS 1922), pp. 489 ff.

[5] J. Waldron, 'Is the Rule of Law an Essentially Contested Concept (In Florida)?' (2002) 21 *Law and Philosophy* 137.

[6] B. Z Tamanaha, *On the Rule of Law: History, Politics, Theory* (Cambridge University Press 2004), p. 91; J. Raz, *The Authority of Law: Essays on Law and Morality* (Oxford University Press 1979), p. 211; P. Craig, 'Formal and Substantive Conceptions of the Rule of Law: An Analytical Framework' (1997) *Public Law* 467; R. H. Fallon, '"The Rule of Law" as a Concept in Constitutional Discourse' (1997) 97 *Columbia Law Review* 1; N. MacCormick, *Rhetoric and the Rule of Law: A Theory of Legal Reasoning* (Oxford University Press 2005), chapter 2; J. Waldron, 'The Rule of Law and the Importance of Procedure' (2011) 50 *Nomos* 3.

Formal conceptions focus on the form that law should take in order to curb arbitrary power, and in particular those risks which might result from the exercise of the law-making power itself. This connects to the eight conditions of formal legality famously identified by the American legal philosopher Fuller: law-makers are required to produce laws that are general, clear, non-contradictory, non-retroactive, stable and foreseeable. Unlike Fuller's emphasis on the inner morality of law, thin formal conceptions of the Rule of Law assume an instrumental and neutral understanding of law. The law is seen as an tool of behavioural regulation and its virtue is its capacity to efficiently coordinate action: *being ruled by laws* – as opposed to whim – is considered a good in itself, whatever the purposes that the law pursues.[7] Such an understanding of *Rule by law* is compatible with tyranny and risks degenerating into legalism: if enacted law fulfils formal requirements, legal subjects just have to obey it, lacking any further ground for contesting its effects.[8]

According to substantive conceptions,[9] the Rule *of Law* essentially entails the attribution of legal protection to fundamental rights.[10] Substantive requirements inform the law-making power both in negative and in positive: as the law-making power may not adversely affect the substance of fundamental rights, it is also subject to a positive obligation to protect them.

Procedural conceptions, such as those articulated by MacCormick and Waldron,[11] emphasize how the safeguard from arbitrary power is dependent on the possibility to challenge such power through legal procedures before independent courts of law capable of providing 'practical and effective' protection.[12]

Whereas they often reflect different assumptions with respect to the concepts of legal norms, sources of law and positive law, formal, substantive and procedural conceptions of the Rule of Law do not necessarily stand in a relation of opposition or mutual exclusion: on the contrary, in the context of COHUBICOL, we emphasize how the intelligibility of each conception depends on the others and how each contributes key aspects of the mode of existence of the Rule of Law. The co-constitutive relations which intertwine the different accounts of the Rule of Law can be better appreciated by looking at the acts by which *in practice* those concepts are understood as reasons for action and invoked to either claim or deny a distinct legal effect. A respondent argues that the request of the claimant must be rejected because it is dependent on the attribution of a retroactive effect to a certain a legal provision. The assessment of the formal requirement of non-retroactivity of law involves dwelling into the substance of the disputed legal right. For such an assessment to take place, an effective legal procedure is necessary. The effectiveness of such legal procedure, in turn, depends on the public and intelligible character of the legal norms which institute the procedure.

---

[7] As the legal philosopher Raz famously put it, "the rule of law is not the rule of good law", Raz (n 6).

[8] M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2016), chapter 8.

[9] R. Dworkin, 'Political Judges and the Rule of Law' (1978), 64 *Proceedings of the British Academy* 259.

[10] The scope of such protection varies according to the thinner or thicker version under consideration, see Tamanaha (n 6) p. 91.

[11] Waldron (n 6); MacCormick (n 6).

[12] MacCormick (n 6) p. 27.

3.3.2.3.2 Affordance

The mode of existence of the Rule of Law is strictly tied to affordances of written text and the practices performed through such technology by the community of jurists.

The invention and diffusion of the printing press has enabled the centralization of power which accompanied the rise of the modern State and stimulated the debate on the Rule of Law.[13] The possibility to produce and disseminate legal texts enhanced the authority of the sovereign, the reach of its power and the gradual monopolization of the sources of law.[14]

At the same time, the proliferation of legal texts has enhanced the role of jurists, whose interpretive practices has become increasingly necessary to stabilize the growing web of meaning embedded in written law. The more the sovereign will is externalised into texts, the more the corpus of legal texts comes to exist autonomously from its author(s) and becomes dependent on its readers. The single acts of expression of sovereign power – an order, a statute, a judicial decision – do not occur in a vacuum, but must find their place within the corpus of the sources of law. As condensed by the English common lawyer Hale, enactments such as statutes and judicial decisions can become law, i.e., being assumed as a reason for action and produce normative effects, only when they have been incorporated into the *substratum* of legal practice.[15] Text-driven practices depend on and substantiate a shared understanding of "what counts as" positive law and what it is for the latter to *rule*. By constituting the conditions of intelligibility of the norms expressed into legal texts, the hermeneutic practices of jurists at once enhance and limit law-making power.

Different accounts of the Rule of Law converge on the idea that the law can rule only if a certain theorical and practical stance towards the value of legality prevails within legal institutions. In this sense, it is interesting to notice that Dicey interchanged the expression "Rule of Law" with "predominance of legal spirit".[16] This emphasizes the constitutive role played by the jurists' shared *pre-judices*[17] i.e., the common conceptual frame of reference and techniques which inform the way in which jurists read – and let speak – legal texts.[18] The importance of such a shared background of text-driven practices is made evident when, despite the appearance of the requirements identified by formal, substantive and procedural conceptions, the Rule of

---

[13] Hildebrandt (n 8) pp. 176 ff.

[14] The contrast is evident with respect to the role of harmonization of law performed by institutions such as the itinerant justice courts in the Middle Ages, and especially in England. See, F. Pollock, *A First Book of Jurisprudence* (Macmillan and Co. 1911), p. 252; G. B. Adams, 'The Origin of the English Courts of Common Law' (1921) 30 The Yale Law Journal 798.

[15] G. J. Postema, *Bentham and the Common Law Tradition* (Oxford University Press 2019), pp. 25-27, 36.

[16] A. V. Dicey, *An Introduction to the Study of the Law of the Constitution* (10th edn, Palgrave Macmillan Limited 1985), pp. 195-199.

[17] H.-G. Gadamer, *Truth and Method* (Second Revised Edition, J. Weinsheimer and D.G. Mars trs, Continuum 2004), p. 275.

[18] As Dicey puts it, the Rule of Law is secured "assuming the bench to do their duty". For the English jurist, indeed "the Courts must prevent, and will prevent at any rate where personal liberty is concerned, the exercise by the government of any sort of discretionary power", see Dicey (n 16), pp. 229, 412.

Law lacks effectiveness: in such cases "courts are just buildings, judges are just bureaucrats, and constitutions are just pieces of paper".[19]

This highlights that the ultimate grounds on which the *rules* of law which sustain the Rule of Law rest can hardly be accounted for in terms of necessary and sufficient conditions.[20] For instance, backing legal norms with further rules specifying how the former are meant to be applied would pose the risk of an infinite regress. This circumstance, however, does not make the affordances of the Rule of Law something elusive, mysterious, or arbitrary, nor does it make it necessary to search for further grounds outside the realm of law: on the contrary, it emphasizes the relevance of the text-driven interactions which make it possible, as it were, *in practice*, to ascribe meaning to the rules expressed into text. Such an approach redirects the attention to the legal *reasons which are given and accepted as grounds for the application of rules of law*, stressing how legal reasoning institutes a common frame of reference which makes the normative force of legal rules binding, intelligible, predictable and contestable.

The circumstance that it is text-driven positive law which 'rules', in turn, affords a form of government in which power and its effects take the shape of legal power and legal effect. Both legal power and its effects share the affordances of the *medium* through which they unfold, i.e., legal texts.

3.3.2.3.3 Legal Protection by Design

The affordances of text are key to grasp the way in which the Rule of Law incorporates by design a particular form of legal protection. In particular, the text-driven nature of law plays a pivotal role with respect to two key aspects of the Rule of Law, i.e., the differentiation of powers and the institution of effective legal remedies.

Since its origins, the aspiration of the doctrine of the Rule of Law has been that of designing a set of legal constraints aimed at securing protection against arbitrary power. Such aspiration informs the institutional architecture of modern State, i.e., a form of government designed to ensure that power – in the words of Montesquieu – acts as "a check to power".[21] The doctrine of the Rule of Law demands that sovereignty is internally differentiated into a plurality of powers and that such powers are subjected to relations of mutual interdependence. The production of legal effects thereby becomes dependent on the correct performance

---

[19] J. Stromseth, D. Wippman and R. Brooks, *Can Might Make Rights? Building the Rule of Law after Military Interventions* (Cambridge University Press 2006), p. 76; G. J. Postema, 'Law's Rule: Reflexivity, Mutual Accountability, and the Rule of Law' in M. Quinn and X. Zhai (eds), *Bentham's Theory of Law and Public Opinion* (Cambridge University Press 2014), pp. 7-39.

[20] As Tamanaha points out that "[f]or the rule of law to exist, people must believe in and be committed to the rule of law. They must take it for granted as a necessary and proper aspect of their society. This attitude is not itself a legal rule. It amounts to a shared cultural belief. When this cultural belief is pervasive, the rule of law can be resilient, spanning generations and surviving episodes in which the rule of law had been flouted by government officials. […] When this cultural belief is not pervasive, the rule of law will be weak or nonexistent", B. Z. Tamanaha, 'The History and Elements of the Rule of Law' (2012) *Singapore Journal of Legal Studies* 232, p. 246. In a similar perspective, one can understand the needs underlying Kelsen's elaboration of the concept of *Grundnorm*; H. Kelsen, *Pure Theory of Law* (Max Knight tr, Lawbook Exchange Ltd 2009).

[21] C. de Montesquieu, *The Spirit of the Laws*, Book V, Chapter XIV; Book XI, Chapter IV.

of legal procedures which presuppose the concerted action by different bodies. The circumstance that text does not apply itself, but requires understanding and interpretation enhance such a differentiation of power. The legislator enacts legal texts, but does not apply nor judges on the application of the texts that it enacts. The administration must justify its powers by advancing a reading of the legislative texts which set the purposes and boundaries of administrative action, and such reading is subject to the jurisdictional control of courts. The decisions of Courts, in turn, are informed by and must be grounded on enacted law.

The first elaborations of the doctrine of the Rule of Law were concerned almost exclusively with the risk of arbitrary exercise of power by the administration.[22] However, a series of doctrinal positions,[23] as well as constitutional architectures[24] have been developed aimed at subjecting also the power of the legislator to legal constraints. In this respect, reluctance to affect the sovereignty of the legislator, which enjoyed an almost mythologic reverence,[25] was overcome especially after the advent of totalitarian regimes.[26]

After the Second World War, a new wave of constitutionalism, together with the institution of international legal orders, e.g., the Council of Europe, prompted the expansion of the concept of the Rule of Law from both a theoretical and a practical perspective. The powers of all state bodies have finally become subject to legal constraints through the establishment of fundamental human rights both in national constitutions and international charters, e.g., the European Convention of Human Rights.

The constitutionalization of fundamental rights has resulted, as it were, in a "subjectification" of the Rule of Law. The founding pillars of the doctrine of the Rule of Law, e.g., the principle of legality and equality before the law, the differentiation of powers, etc., have been fashioned in the language of legal rights and translated into legal texts oriented in the perspective of legal subjects. In this way, it has become crucial for the Rule of Law that positive law provides legal remedies capable of effectively ensuring legal protection. In this respect, the European Court of Human Rights has underlined that "one can scarcely conceive of the Rule of Law without there being a possibility of having access to the courts".[27]

Legal remedies must enable legal subjects to address those who will take a binding legal decision on them, i.e., who are responsible for the attribution of legal meaning and that determine its legal effects. In order to ensure that any decision having legal effect is subjectable to jurisdictional scrutiny, legal subjects must be granted, *de iure* and *de facto*, the right to access to courts.

The institution of legal remedies intertwines with the differentiation of power to make sure that under the Rule of Law *nobody and no public body* is above the law. Effective legal remedies presuppose impartial and

---

[22] See, supra, Costa and Zolo (n 2).

[23] See Carré de Malberg (n 4); Kelsen (n 20).

[24] In this sense, the Constitution of the United States of America is of particular importance, especially in the light of the role assumed by the Supreme Court from the landmark judgment adopted by Chief Justice Marshall in the case *William Marbury v. James Madison, Secretary of State of the United States* 5 U.S. 137 1 Cranch 137; 2 L. Ed. 60; 1803 U.S. LEXIS 352

[25] C. Schmitt, *Legality and Legitimacy* (Jeffrey Seitzer tr, Duke University Press Books 2004).

[26] L.L. Fuller, *The Morality of Law* (Yale University Press 1977).

[27] European Court of Human Rights, *Golder v. United Kingdom*, 21 February 1975, § 34, http://hudoc.echr.coe.int/fre?i=001-57496.

independent courts. Positive law must protect the activities and organization of the judiciary from government interference and ensure the effective enforcement of judicial decisions against any power.

The effectiveness of remedies also requires that legal subjects are provided with the means to establish a productive dialogue with legal institutions. This implies that the decision-makers addressed through legal procedures are capable of hearing and understanding those who will be subject to their decisions. In this sense, the Rule of Law clearly depends on the effectiveness of the right to be heard and the guarantees of fair trial.[28]

The focus on judicial procedures further highlights the relation between legal protection and the affordances of text. As text the invites interpretation, legal remedies are the *medium* through which interpretations can be presented or challenged.

Legal procedures are the *locus* in which interpretations of legal texts can be understood, accepted, and given legal effect, determining what *in practice* counts as a legitimate exercise of legal power, an arbitrary act, effective legal protection.

3.3.3 Positive Law

3.3.3.1 Working definition

1. Positive law is the entirety of legal norms that are in force in a specified jurisdiction, derived from the sources of law.
2. As explained under legal norms, this includes both primary rules (regulative, i.e. legal norms that directly regulate) and secondary rules (constitutive, i.e. legal norms that define how primary rules can be made).
3. Being in force refers to (1) the binding character of positive law, (2) the state's actual power to enforce the law and (3) a decision by a legislator, public administration or court whereby they enact legal norms in the sense of issuing, interpreting and/or applying them. All three points relate to the nature of legal effect as opposed to causal effect.
4. Legal certainty depends on the 'positivity' of the law.
5. Positive law is informed by the moral principles that constitute its implied philosophy and simultaneously informs the moral practices of those subject to its normativity.
6. Positive law differs from morality in (1) that it does not depend on the moral inclinations of an individual decision-maker, and (2) that it is in principle enforceable against those under its jurisdiction.
7. Positive law differs from politics and policy in that it does not determine the purposes of a polity but determines what legal effect is attributed based on the fulfilment of what legal conditions. The Rule of Law implies that political decision-making depends on the attribution of a legal power to do so, meaning that the legal effect of primary legal norms depends on the legal effect of secondary legal norms.

[28] Waldron (n 6).

8. Positive law assumes the existence of a sovereign state and simultaneously constitutes and regulates that same sovereign state.
9. The Rule of Law as well as the protection of human rights depend on positive law.
10. Positive law is often opposed to 'natural law', which may refer to divine law (medieval period) or the law of reason (enlightenment period), both of which claim universal application and an objective truth-value; positive law is human-made (it is 'posited'), depending on the social contract that defines a particular jurisdiction.
11. Though some authors restrict the meaning of 'positive law' to legislation, we use the concept to refer to all legal norms, whether enacted by a legislature or a court, whether written or unwritten, as long as they derive from the sources of law.
12. Positive law should not be confused with 'legal positivism', which refers to a specific conception about the nature of law, its making and its validity. Recognizing the importance of positive law does not imply 'legal positivism'.

3.3.3.2 Examples of how 'positive law' is used

Not taking one's hat off in certain circumstances might be sanctioned by public disapproval, signalling the violation of a moral obligation. The breach of such obligation, however, does not amount to a violation of positive law. By contrast, an action which might be indifferent or tolerable from a moral point of view, e.g., not stopping at red lights in an empty road crossing, constitutes a violation of positive law where a legal norm derived from the sources of law provides so. Differently from the case of a moral obligation, the effects produced by the violation of positive law might be enforced by public authorities invested with the power to exercise public force.

It may be prohibited by positive law to enter a vehicle into a park. A data-driven machine trained on thousands of pictures of vehicles might accurately classify new pictures as either representing vehicles or non-vehicles.[1] Whatever the performance that the machine achieves in such task, however, the machine output does not automatically produce performative legal effects.[2] To count as a legal decision, the outcome output by the machine must satisfy the set of normative requirements provided for by positive law. If the decision is disputed, the fulfilment of such requirements must be proven through the articulation of a justification which, in turn, complies with the standards of legal reasoning which distinguish legal practice.

[1] Paul Gowder, 'Is Legal Cognition Computational? (When Will DeepVehicle Replace Judge Hercules?)' in Ryan Whalen (ed), *Computational Legal Studies. The Promise and Challenge of Data-Driven Research* (Edward Elgar Publishing 2020), pp. 215-237; Michael A. Livermore, 'Rule by Rules' in Ryan Whalen (ed), *Computational Legal Studies. The Promise and Challenge of Data-driven Research* (Edward Elgar Publishing 2020), pp. 238-264.

[2] Mireille Hildebrandt, 'Law as Computation in the Era of Artificial Legal Intelligence: Speaking Law to the Power of Statistics' (2018) 68 *University of Toronto Law Journal* 12.

3.3.3.3 The meaning of 'positive law' in terms of MoE, affordance and LPbD

3.3.3.3.1 Mode of Existence

Positive law relies upon a specific materiality. It would be naïve to state that matter doesn't matter: clearly, the existence of law depends on a set of material conditions, if only the resources necessary to ensure the enforceability of legal norms.

At the same time, the concept of mode of existence helps bringing to the fore the reasons why an account of law based on a reifying vocabulary would be neither eloquent nor exhaustive. The way in which positive law exists, and works, cannot be grasped by making reference only to the material aspects of the medium in which norms are embodied or the material conditions necessary to ensure its effectiveness: an explanation centred on the properties of stone, paper or silicon, etc. would simply misfire, neglecting the relations of c*onceptual determination* which underpin and warrant the production of legal effects.

The peculiar ecology of positive law can be understood only by situating oneself in the realm of meaningful interaction. This involves the adoption of the standpoint of agents who "do things with law", that is, adopt legal rules as a ground to make intelligible, justify, or censure, certain action.

Once that positive law is addressed from the perspective of speech and action, it becomes possible to explain how law can do things by referring to the performative character of legal speech acts and the felicity conditions on which their success depends on. The investigation of such conditions of felicity reveals the strong internal relations which positive law entertains with concepts such as legal norm, sources of law, legal effects, legal validity, etc. None of such concepts could be intelligible without making reference to the others. At the same time, the mastering of such a complex net of relations is essential for the felicitous performance of legal speech acts.

Seminal notions such as legal norm, sources of law, legal effects, or legal validity do not exist in some sort of heaven of concepts,[3] but are constituted and enforced in the context of a set of institutional practices. These practices entertain a co-constitutive relation with legal texts: doing certain things with texts, i.e., using them as a reference to justify and evaluate action, makes texts intelligible *as legal texts*. In turn, practices become intelligible *as legal practice* because of their reliance on the use of legal texts as a reference and source of legitimation.

A circular normative relation ties the conditions of felicity of legal speech acts, the texts in which such conditions are inscribed and the hermeneutic practices through which the latter "come to life". Such circle cannot be broken into "from the outside" [4] without this leading to the collapsing of the mode of existence of

[3] R. von Jhering, 'In the Heaven of Legal Concepts: A Fantasy' (1985) 58 *Temple Law Quarterly* 799 (translated by C.L. Levy)

[4] Cfr. G.P. Baker, P.M. S. Hacker, *Wittgenstein: Rules, Grammar and Necessity, Essays and Exegesis of 185-242*, (Wiley Blackwell 2010), p. 147.

positive law. An explanation of positive law from outside such circle would not be *wrong*, but it would be an explanation of something else.[5]

As emphasized especially by positivist jurisprudence, the mode of existence of positive law is distinguished from that of other normative phenomena such as, for instance, politics, religion, morality, or games.[6]

In this sense, the "positive" character of law has been explained with reference to the artificial, man-made character of law and by highlighting the specific features which distinguish law as a system of norms. On the one hand, when taking a normativist perspective,[7] legal positivism has placed the emphasis on the systematic hierarchical relations between legal norms and the specific procedures of enactment and enforcement which determine the legal validity of law-making acts. On the other hand, when taking a voluntaristic perspective, legal positivism has traced the ultimate source of validity to the will of the sovereign which posits the legal order.[8]

Some authors have openly adopted an anti-positivist stance, believing that positivism depends on giving pride of place to lawmakers, and especially the legislature. Such approaches emphasize the inherent limitations which distinguish enacted law[9] from the positive character of legal orders which grow spontaneously from interaction.[10]

In COHUBICOL we emphasize the need to acknowledge the crucial importance of the positive character of modern law, which means that for a norm to be a legal norm it must have legal effect. This, however, does not mean that we adhere to formal legal or sociological positivism.

By focusing on the co-constitutive relation between positive law, law-making power and legal practice,[11] the emphasis can be shifted from the question of "who posits positive law" to the practices within which the reference to something *as* positive law is licensed, accepted (or contested) and produces its effects. The understanding of "positivity" which emerges from such perspective does not deny the responsibility that

---

[5] L. Wittgenstein, *Zettel* (Blackwell 1981) § 320.

[6] In this sense, Austin distinguished between "laws properly so called" and "positive morality", see John Austin, *The Province of Jurisprudence Determined* (Cambridge University Press 1995); see also, A. Ross, *On Law and Justice* (The Lawbook Exchange 2007); H. L. A Hart, *The Concept of Law* (Clarendon Press 1994).

[7] Kelsen (n 20).

[8] As Hobbes highlights, "[t]here must be law-makers before there were any laws", see A. Cromartie and Q. Skinner (eds), *Thomas Hobbes: Writings on Common Law and Hereditary Right: A dialogue between a philosopher and a student, of the common Laws of England. Questions relative to Hereditary right* (Clarendon Press 2005), p. 34. Austin accounted for the law-making power of the judiciary, as well as the latter's power to turn customs into positive law, as a faculty exercised under the authorization of the sovereign, see Austin (n 34)

[9] As, for instance, Coke and Blackstone, see Postema (n 15), pp. 15 ff.; or the anti-formalism movements spreading in Continental Europe at the turn of the Nineteenth century, as the German Free Law Movement (*Freirechtslehre*), see P. Grossi, *A History of European Law,* (Wiley-Blackwell, 2010), p. 119.

[10] F. A Hayek, *Law, Legislation and Liberty: A New Statement of the Liberal Principles of Justice and Political Economy* (Routledge 2012); B. Leoni, Freedom and the Law (3rd edition, Liberty Fund Inc 1991).

[11] In this perspective, a common thread unites perspectives which going from the Medieval ius commune, the classic common law, historicist schools and, more recently, institutionalism. See, S. Romano, *The Legal Order* (Routledge 2017); N. MacCormick, *Institutions of Law: An Essay in Legal Theory* (Oxford University Press 2007).

comes with the human authorship of positive law, nor does it diminish the importance of enacted law: on the contrary, by framing the positive character of law in the light of the practices performed on the basis of legal texts, it actually extends such responsibility and acknowledges how, through the acts of writing, reading, speaking law, jurists plays a constitutive role in the "positivization" of law. Questions such as what constitutes a valid source of law, or the correct performance of a procedure of enactment, or an authoritative precedent, or what is the scope of the binding force of a legal norm, etc., are addressed by looking at the standards of reasoning and argumentation which jurists set and enforce based on the common frame of reference afforded by legal texts.

3.3.3.3.2 Affordance

The technology of text, and especially the printing press, have played a pivotal role in the development of the conditions which sustain the mode of existence of positive law. Text has afforded the expression of legal norms in a form that differs from that of speech, which is fundamentally ephemeral. The reach over time and in space of laws expressed into text has played a key role in the consolidation of the bureaucratic form of government which characterizes the modern state. This, in turn, has made possible the establishment of an internal jurisdiction in which sovereignty could be expressed through acts having binding character.[12] The gradual stabilization and growing complexity of the public power afforded by text has been accompanied by the structuring of a system of institutions, authorities appointed with the competences and legal powers to produce, enforce and check the application of legal texts.

> The body of legal knowledge afforded by the corpus of legal texts magnifies the capacity of positive law to be stable without standing still

Due to their text-based nature, legal norms are identifiable and traceable. Being externalized into written text, legal norms can be reflected upon. As we will show in the next subsection, this enhances the possibility to contest the application of legal norms, affording a particular form of legal protection. It is first necessary to highlight that the increasing complexity of the web of meanings generated by the accumulation of legal text has made it possible to draw a distinction between punctual acts of expression of the sovereign power and the corpus of law. Ultimately, this has permitted to oppose the latter to the former, bringing the sovereign under the Rule of Law. Legal texts have afforded the elaboration of a systematic corpus of legal knowledge which constitutes the complex set of conditions of felicity which govern the performance of legal speech acts. The reading of and reasoning with legal texts, notably the judgements of courts, enable the institution and entrenchment of a shared understanding of "what counts as positive law". Crucially, such a shared understanding is not limited to theoretical knowledge of the relevant concepts informing positive law. Because it is grounded in judgment, it involves the reciprocal recognition of what counts as the correct *application* of legal rules embedded into text.[13]

[12] Hildebrandt (n 8)

[13] L. Wittgenstein, *Philosophical Investigations* (G.E.M. Anscombe tr, Macmillan Publishing 1953), § 242.

The body of legal knowledge afforded by the corpus of legal texts magnifies the capacity of positive law to be stable without standing still.[14]

The technology of text affords a form of certainty and predictability which is distinctive of the specific mode of existence of positive law. The frame of reference provided by legal texts enables legal subjects to develop and rely on mutual expectations, thus being able to anticipate the legal consequences of their actions. It should be noted that the mutual expectations that are generated by way of binding legal text are not a matter of statistical regularity or causal *laws*. Did the court decide the present case in the same way as it did before? Will this reading of a legal text be considered correct? Is this act correctly qualified under such a norm? No doubt, answering these questions requires the capacity to detect regularities. What is at play here, however, is a form of *meaningful* regularity, that is, the *regular application of a norm*, the *regular use of legal texts*. In this respect, the capacity to grasp "what counts as a consistent, predictable, regular" demands the adoption of a normative standpoint. The grounds on the basis of which regularity can be assessed are represented by the *reasons* that are given and accepted as a justification of a certain application of legal texts. As the meaning of texts is entrenched by their use[15], the certainty of positive law is an affordance of the acts which manifest and consolidate a certain understanding of what counts as a correct application of the rules embedded into text.

Being based on legal texts, positive law makes it possible to *come to an understanding*, i.e., to perform a continuous stabilization and re-articulation of legal meaning. The meaning of human action and legal norms can be defined and redefined through an ever more tailored vocabulary through the exchange of arguments, the reading of the latter in the light of new contexts, the reinstatement and discussion of the similarities and dissimilarities between cases, etc..

3.3.3.3.3 Legal Protection by Design

The text-driven nature of positive law affords a particular form of protection. The medium of written texts subjects power to a form of visibility which makes its exercise contestable.

As emphasized by the liberal tradition[16] and by formal accounts of the Rule of Law[17], the circumstance that power is required to take the form of "established standing laws, promulgated and known to the people"[18] offers a safeguard against arbitrariness. Written positive law provides legal subjects with grounds for anticipating both how the state might lawfully act and how their action will be interpreted in the light of the applicable legal norms.

Textual legal norms inform ex ante the expression of legal power and provide the grounds for contesting ex post its exercise. Those willing to produce a certain legal effect are required to engage into a careful reconstruction of the conceptual relations between legal norms, identifying and advancing a reading of legal

---

[14] R. Pound, *Interpretations of Legal History* (Cambridge University Press 1923), p. 1.

[15] N. Goodman, *Fact, Fiction, and Forecast: Fourth Edition* (4th Revised ed. edition, Harvard University Press 1983).

[16] Montesquieu (n 3), Book XI; J. Locke, *Two Treatise of Government* (Cambridge University Press 1988), p. 284.

[17] F. A. Hayek, *Law, Legislation and Liberty: A New Statement of the Liberal Principles of Justice and Political Economy* (Routledge 2012); Raz (n 6).

[18] Locke (n 44), § 131.

texts in such a way as to warrant the act of exercise of power. At the very least in the case of contestation, the successful performance of legal speech acts depends on one's ability to make reference to legal texts and justify how the latter provide a valid source of power. As the reference and grounds alleged for justifying legal power are constituted by written norms, legal subjects can contest power by advancing their own interpretation of legal texts.

The open texture[19] of written legal norms law enables a dynamic form of protection: legal texts makes it possible to constantly enrich *that which can be said and understood* through the language of positive law. Through jurists' reading and interpretation, a responsive relation can be established between textual norms and the "*texture of human affairs and conversation*".[20] The claims which emerge in social interaction can be given legal relevance and translated into a form capable of producing legal effects.

At the same time, as much as it hinges upon the adaptiveness of text,[21] legal protection is also contingent on the possibility to reach closure. While positive law affords contestability and the articulation of new forms of legal protection, it also institutes the authoritative power to settle legal disputes. An endless hesitation on the meaning of legal texts would make uncertain the scope of the legal protection to which legal subjects are entitled. This would leave room for arbitrariness, jeopardizing the effectiveness of subjective rights. For instance, one can hardly conceive the right to personal liberty in the absence of a swift legal procedure before an authority having the competence to assess the lawfulness of an arrest and, if necessary, to issue a prompt and binding order of release. The closure afforded by jurisdictional control is key for overcoming the disappointment of the normative expectations. Through binding legal decisions, courts assess and reinstate *what should be expected* on the basis of legal texts.

3.3.4 The texture of text-driven normativity

The concepts of the Rule of Law and positive law entertain a co-constitutive relation: on the one hand, the "law which rules" is positive law; on the other, the constellation of values and normative standards enshrined by the doctrine of the Rule of Law informs the understanding of what is required for positive law to "rule".

The concept of text-driven normativity allows to account for the power of law as a normative force which is afforded – and that means that it is also constrained - by the medium through which it is exercised, i.e., the legal texts through which the language of positive law is inscribed, transmitted, apprehended and carried forward.

The form of normativity afforded by text is key to the Rule of (positive) Law. As discussed with reference to the concept of the Rule of Law, the circumstance that law is mediated by text is capable of de-escalating the threats posed by absolutism and counters the assumption that obedience to law and a close and critical

[19] Hart (n 34).

[20] G. J. Postema (ed), *Matthew Hale: On the Law of Nature, Reason, and Common Law: Selected Jurisprudential Writings* (Oxford University Press 2017), p. 193; Id., (n 15), p. 32.

[21] M. Hildebrandt, 'The adaptive nature of text-driven law', (2020) 1(1) *Journal of Cross-disciplinary Research in Computational Law*.

reading of legal texts are mutually exclusive.[1] Text-driven normativity shows that the binding force of law has nothing to do with causal determination – the hardness of a rule is not akin to the hardness of a material.[2] At the same time, text-driven normativity wipes out radical scepticism, illustrating the reasons why, when it comes to the interpretation of legal texts, not anything goes.

Texts do not automatically determine their meaning. Likewise, the norms inscribed into text do not automatically produce legal effects. Meaning, and therefore of binding force, are ascribed to texts through normative text-driven interactions. It is by "doing things" with legal texts, i.e., claiming a right, opposing an argument, advancing a motion for a mistrial, concluding a contract, etc. that jurists constantly put into play positive law and articulate the boundaries of legal normativity. Of course, this doesn't mean that the meaning of legal texts cannot *become* – or better *be made* – self-evident, and the application of the rules embedded into text, as it were, automatic. Quite the contrary, none of the "things that can be done with legal texts" would be possible if the meaning of such texts could never be taken as a matter of course. As discussed above, a stable framework of legal meaning is as essential to orient and coordinate interaction as well as to ensure legal protection. It is worth adding that stability of meaning is necessary also for contesting and changing legal meaning: the act of questioning legal meaning hinges on the assumption of other legal meanings as unquestioned;[3] if someone tried to contest everything she would not get as far as contesting anything.[4]

In COHUBICOL we stress the importance of acknowledging that, when it comes to legal meaning, stability, contestability and change are not mutually exclusive. The paradox is only apparent and can be dissolved in the light of the affordances of the technology of written text. The concept of affordance makes it possible to look at, and appreciate, the way in which the meaning of legal texts *becomes* self-evident, and the application of legal norms a matter of course. A stable meaning is a meaning that has been stabilized, i.e., whose normative force has been entrenched by the use of legal texts, backed by the mutual recognition by the community of jurists. *As it is stabilized*, the attribution of meaning can be challenged and changed. The added emphasis points to the circumstance that stabilization, contestation and change (i.e., re-stabilization) of legal meaning occur "in the same way", that is, using legal texts as reasons to justify certain action through the articulation and exchange of legal arguments. The relations of *conceptual determination* which sustain the force of law are forged through the normative activities performed by using legal texts as a common reference, i.e., explaining or teaching their meaning, justifying, contesting, or correcting the application of the norms thereby inscribed.[5]

---

[1] A. Cromartie and Q. Skinner (eds), *Thomas Hobbes: Writings on Common Law and Hereditary Right: A dialogue between a philosopher and a student, of the common Laws of England. Questions relative to Hereditary right* (Clarendon Press 2005), p. 8.

[2] L. Wittgenstein, *Remarks on the Foundations of Mathematics* (MIT Press revised edition 1983) IIII, § 87

[3] Cf., Id, On Certainty, §§ 341-342.

[4] Cf., ivi, § 115 "If you tried to doubt everything you would not get as far as doubting anything. The game of doubting itself presupposes certainty.

[5] G. P. Baker and P. M. S. Hacker, *Wittgenstein. Rules, Grammar, and Necessity: Essays and Exegesis of §§ 185-242* (2nd, extensively rev. edn, Wiley-Blackwell 2010).

While the focus on text-driven legal interactions emphasizes the scope of the agency enjoyed by the readers of legal texts, it should be noted that such agency is at once enabled and constrained by the technology of written text. Differently from the case of orally expressed norms, the norms embedded into texts situate their readers in front of a stratified corpus of meanings "*handed down from the past*".[6] The American legal philosopher Postema well represents the standpoint of jurists by referring to the figure of Bifront Janus, the Roman god of beginnings and gates: as Janus, jurists find themselves looking at the present from a standpoint which is situated "*on the threshold of past and future, seeking to integrate them into a normatively meaningful whole*" .[7] The complex interplay of manifold legal texts affords multiple interpretations. At the same time, the accumulation of texts confronts those who are willing to make sense of them with a burden: the reading of legal texts cannot simply ignore or unwarrantedly conflict with the past corpus of law. Legal texts demand their readers to endeavour towards integrity: jurists are required to test whether their interpretation could "form part of a coherent theory justifying the network as a whole".[8] Only by developing the capacity to critically appropriate the schemes of interpretation guiding past controversies jurists gain the ability to reformulate and adapt such schemes of interpretation to the needs of the present cases. Only through a "long study and experience"[9] of the body of legal texts jurists can master the "artificial reason" – or better, *reasoning* – "and judgment of law".[10]

As a tradition, the language of positive law is something that needs to be appropriated and carried on. The fact that law is a tradition based on the writing and reading of texts makes it possible to change and extend the vocabulary of positive law. In this sense, text-driven normativity makes it possible for "that which is to be protected", as much as "what counts as adequate protection", to emerge and consolidate "as we go along".[11] In this way, the text-driven nature of law treasures and enhances the productive ambiguity and generativity of language, while ensuring stability, contestability and closure. This, in turn, affords a form of protection which could not be attained in oral traditions.

A look into history shows that legal traditions do not necessarily afford the same degree of legal protection.12 Being an affordance of legal text - and not a result inexorably caused by material features of the medium in which law is embodied - legal protection cannot be taken for granted, but must be constantly sustained. This Sisyphean challenge is further intensified by the emergence of forms of normativity which differ from those afforded by text.

3.3.5 Anticipating legal protection under data- and code-driven normativity

As discussed in the previous sections, the Rule of Law and positive law are affordances of written text. The normative practices developed on the basis of legal texts make possible and constrain the power to establish

---

[6] Gadamer (n 18), p. xvi.

[7] G. J. Postema, 'Melody and Law's Mindfulness of Time' (2004) 17 *Ratio Juris* 203, p. 214.

[8] Ronald Dworkin, *Law's Empire* (Harvard University Press, 1986) p. 225.

[9] E. Coke, *Prohibitions Del Roy*, 1607, Michaelmas Term, 5, James I, in Id., *Reports*, volume 12.

[10] Ivi

[11] Wittgenstein (n 41), § 84.

[12] It has been part of the shared understanding of most legal tradition to exclude the attribution of legal subjectivity to many persons, as well as to recognize limited legal powers to some legal subjects.

"what counts as law" and thus to produce legal effects. In accordance with the articulation of sovereignty into a plurality of differentiated powers, the normative force of law emerges from the shared agreement in understanding and judgment that is reached by multiple actors partaking to a common text-driven practice. This is crucial to sustain the stability and contestability of legal meaning which ground legal protection.

As lawyers are familiar with expressing legal norms in the technologies of text, they may be tempted to re-translate them into other technologies. This will, however, transform their normative force. The translation of law into code and data - and the attribution of legal effects to machine outputs - implies a paradigmatic shift. With respect to written text, code and data are distinguished by specific affordances. Accordingly, the translation of law into code and data can affect the mode of existence of law. Ultimately, the transition towards computational law involves the emergence of different normative practices and, therefore, demands a rearticulation of the mechanisms of legal protection.

As highlighted from the very first "speculations" on Artificial Intelligence and Law,[1] "what can be said" through code is constrained by the "rigorous demands of computer programming languages".[2] The meaning and consequences of "saying something" through code differ from written text: code removes the gap between the *expression* of a rule and its *application*. As this eradicates the productive ambiguity of text, it also implies a centralization of the power to determine what counts as law. Bearing in mind the essential role the differentiation of powers plays under the Rule of Law, a *rule by code* seems to pose the risk of computational form of legalism.[3]

At the same time, representing law or meaningful behaviour as data raises the question of what might be lost in translation and what normative value can be attributed to the patterns which machines learn from data.

The possibility of ensuring legal protection from data-driven and code-driven systems depends on the disentanglement of the relations between legal norms and the *laws* which drive the behaviour of machines, i.e., the rules of code and the regularities detected in data. In this respect, it is possible to raise a series of questions concerning the forms of normativity fostered by code and data:

1. How do the artificial languages of code and data affect the form of dynamic protection that law derives from the affordances of text?
2. How do the relations of conceptual determination which underlie what counts as law interact with the relations of causal determination that govern code and data driven systems?
3. Which countervailing mechanisms can balance the power of determination which is exercised by inscribing law into code and data?
4. Positive law, on one hand, and causal and statistical laws, on the other, give rise to different forms of expectations: cognitive, i.e., concerning what is likely to be, and normative, i.e., concerning what should

[1] B. G. Buchanan and T. E Headrick, 'Some Speculation about Artificial Intelligence and Legal Reasoning' (1970) 23 *Stanford Law Review* 40, p. 46

[2] Ivi, p. 46. As the Authors add, it is likely that the lawyers will be frustrated by "the gap between what they want to say and what the computer language lets them say".

[3] L. Diver, *Digisprudence: Code as Law Rebooted* (Edinburgh University Press 2022).

be. The line between the two is, however, constantly redrawn in practice: in which way does the advent of computational technologies in legal practice affect the interplay between cognitive and normative expectations?

3.4 Legal Effect, Sources of Law, and Jurisdiction

Emilie van den Hoven

3.4.1 Introduction

Positive law, consisting of a collection of legal norms and drawn from the sources of law in a specific jurisdiction, binds legal subjects by virtue of its legal effects. To understand law's current mode of existence, it is thus imperative to understand the nature of these notions and how they operate. What is 'legal effect' and how does it prompt us to follow legal rules? How is it different from laws of cause and effect in natural sciences and how is different from ethical norms? What are the 'sources of law' and how do they stipulate the legal effects in a given jurisdiction? How should we interpret them and use them in our legal reasoning? How have we come to understand the notion of 'jurisdiction' and how does it function as an architectural feature in our legal world?

How is law different from cause and effect in natural sciences, and how is different from ethical norms?

These questions do not have straightforward answers, but most are intricately related to the shared *institutional* legal world that we have created. *Institutional* fact, as opposed to *brute* fact, in the legal context is afforded to us by natural language and text. The affordances of a text-driven ICI have meant that interpretation has become the hallmark of modern positive law. The fact that we are confronted with the multi-interpretability of natural language in the legal context has, in turn, afforded us possibilities of contestation and argumentation. This also means that we need some form of closure, lest we perpetually discuss what is law and what is not, which laws apply, and which do not. Therefore, legal protection in the context of text-driven law implies an emphasis on values like legal certainty and predictability, while equally calling for the discretionary and deliberative qualities that are core to the Rule of Law.

To tease out what this specific type of text-driven legal protection consists in, this chapter looks more closely at each of the three legal concepts in turn through the prism of the conceptual innovations that are at the core of the COHUBICOL project: affordance, modes of existence and legal protection by design.

3.4.2 Legal Effect

3.4.2.1 Working definition

1. The consequence of a legally relevant fact, which consequence is attributed by positive law, and consists of a change in the legal status of a legal subject, including a change in their powers, their rights or obligations:
    - this can entail e.g. the attribution of a right, the voiding of an obligation, or the qualification of some state or behaviour as either lawful or unlawful;
    - the attribution of legal effect is brought about by a legal norm that consists of a set of legal conditions (*Tatbestand*) that attribute the legal effect if the conditions are fulfilled;

- the attribution is neither caused nor logically inferred; it is performative in the sense of speech act theory;
- for instance, fulfilling the conditions that constitute a criminal offence have the legal effect of being punishable, not of being punished (which is another matter).

2. The set of legal conditions (*Tatbestand*) that result in a legal effect are specified in positive law, more precisely in a source of law: legislation, case law, customary law, or fundamental principles.
3. As positive law depends on the relevant jurisdiction, legal effect in turn differs per jurisdiction, even if some legal effects may apply in many jurisdictions.

3.4.2.2 Examples of how 'legal effect' is used

The term 'legal effect' is used differently colloquially and in legal scholarship. Colloquially, it can perhaps be taken to broadly refer to the effects of law on society, but in law it has a very specific meaning. A few concrete examples will illustrate its meaning in the legal context:

- The legal effect of concluding a valid contract usually consists of the *attribution of two legal obligations to perform* as stipulated in the contract, and *two rights to such performance*.
    - E.g. If you conclude a contract of sale to buy a car it has the legal effect of an obligation *to pay a price* for the buyer and an obligation *to transfer ownership* for the seller; it entails *a right to have ownership* of the car *transferred* for the buyer, and *a right to be paid the price* of the car for the seller.
- The legal effect of stealing a car means that one becomes *punishable* if the legal conditions for theft are found to be fulfilled by an institution with the authority to do so. This means those convicted can receive the punishments as specified for the offence in the positive law of the jurisdiction in question, except where a *justification* or *excuse* applies.

3.4.2.3 The meaning of 'legal effect' in terms of MoE, affordance and LPbD

Although legal effect is not the be all and end all of what modern law is or does, it could be characterised as its vanishing point and is core to a hermeneutical understanding of the law. It is what separates law from other types of norms and is neither a matter of brute fact nor one of mechanical application.[1] Therefore, it is one of the key building blocks of what makes modern law and it is what allows for an architecture that structures society, as it guides human beings in their capacity as legal subjects in navigating our shared institutional world. But to explain the notion of legal effect properly and clearly, it is crucial to locate where the actual 'effect' sits in law's current mode of existence. For this we need to turn to speech act theory, given that 'the nature of positive law entails the attribution of legal effect when specified legal conditions apply, noting that such legal consequence is the performative effect of a dedicated set of speech acts that have

[1] M. Hildebrandt, 'Text-Driven Jurisdiction in Cyberspace' (Keynote Hart Workshop 26-28 April 2021) available online at https://osf.io/jgs9n/ at p. 6.

been consolidated in a dynamic corpus of legal texts'.[2] Speech acts are those acts that are performed by virtue of being uttered: they do what they say. Such 'performatives' or 'illocutionary speech acts', as J.L. Austin called them, are not the *cause* of an act but *constitute* that act. Performatives can be contrasted with 'constatives' or 'locutionary' acts that are propositional or descriptive rather than performative.

> Speech act performatives are not the *cause* of an act, but are what constitute it

Speech acts lay bare how language can do more than just describe our reality, it can also constitute it. Austin himself states at the very beginning of his first William James lecture, a lecture series that came to make up his seminal *How to Do Things with Words*, that performatives might masquerade as statements of fact, but that they are not. He says in a footnote: 'Of all people, jurists should be best aware of the true state of affairs. Perhaps some now are. Yet they will succumb to their own timorous fiction, that a statement of "the law" is a statement of fact'.[3] That this distinction is of prime relevance to law is also illustrated by the fact that some of the most evocative examples from the literature on speech act theory, e.g. the pronunciation of a marriage ('I pronounce you married') are legal in nature. **This is what legal effect is at its core: legal effect is attributed to a performative – changing legal powers or the legal status of legal subjects, upon fulfilment of certain conditions that may vary across jurisdictions, e.g. from unmarried to married.** Our linguistic interaction creates linguistic artefacts that change our shared institutional world, changes our perception of that world, and changes us in the process.

Law's current mode of existence properly conceived then consists of a dynamic collection of speech acts.[4] As the working definition stated above has demonstrated, a specified legal effect is attributed when certain legal conditions are demonstrably fulfilled, but this is obviously not always straightforward: nearly nothing in law is as simple as an individual invested with legal power uttering a first-person singular statement such as 'I pronounce you partners', to which legal effect is attributed that takes immediate effect. Part of the complexity is also owed to the fact that speech act theory was developed in the context of oral speech and not of written text, whereas law has traditionally been *text-driven*. However, 'speech' can be and is used in some of the philosophical literature on speech act theory as including more than just speech in the traditional oral sense. Let us turn to some examples to see how legal effect can be defined as the performative effect of a series of legal acts that qualify as *speech acts*: a legislature that *enacts* a rule about the legal effect of concluding contracts, followed by two parties who *enter into a contractual agreement* to sell and purchase a car. If one of the parties then claims terms of the contract were violated, e.g. because the seller does not hold up his side of the bargain and the car is not in the agreed upon condition or meets the discussed

[2] Ibid at p. 2.

[3] J.L. Austin, *How To Do Things With Words* (The William James Lectures delivered at Harvard University in 1955) (Clarendon Press, 1962) at p. 4.

[4] M. Hildebrandt, 'A Philosophy of Technology for Computational Law' in D. Mangan, C. Easton and D. Mac Síthigh, *The Philosophical Foundations of Information Technology Law* (2021) at p. 6.

requirements, the injured party then *claims in court* that the other party has breached the contract in some way or other and is liable to pay compensation, followed by the court *deciding* the case.[5]

In each case the legal effect is indeed a performative effect – it has real effects in the make-up and constitution of our legal institutional world. Performative speech acts are thus very closely tied to *institutional* facts, as opposed to *brute* facts, and capable of creating our shared institutional world. But whether a speech act has such a performative effect is crucially dependent on a shared background in a pragmatist understanding of the meaning of language. In this context, the Wittgensteinian idea of *meaning as use* entails that the performative effect is dependent on 'a shared background consisting of hidden assumptions, mutual beliefs and a joint practice that grounds the use and thereby the meaning of words and more generally of human action'.[6]

> Performative speech acts are thus very closely tied to institutional facts, as opposed to brute facts

Legal effect, viewed in this way therefore consists not just in *oral* legal speech acts (e.g. pronouncing), but *written* legal speech acts as well (e.g. enacting). While a written speech act or performative might sound like a contradiction in terms, modern law consists in both unwritten and written performatives. Whereas oral performatives are directly embedded in the context in which they were uttered, written performatives (like most text) endure far beyond the moment of inscription and are thus extended in both time and space. This instantiation in time and space makes context of prime importance and interpretation in light of the context into the hallmark of positive law, which requires keen attention to the tacit background knowledge at stake. It appears that the literature on speech act theory has not focused much so far on either written speech acts or on the contextual information needed for understanding a speech act.[7] Perhaps when the direct circumstances in which a speech act is uttered are clear, as is the case for most oral communication, most of the time the contextual information (shared background or tacit knowledge) need not be explicitly specified. However, due to the affordances of written text this needs to be made explicit, especially in law. These affordances account for the complexity of modern positive law and the nature of legal effect that is a necessary condition for law and thus forms the backbone of legal protection. Thereby, legal effect is also instrumental in instituting the countervailing powers of the Rule of Law.

Legal effect in text-driven law thus offers legal protection 'by design' in two senses: first, it straightforwardly offers the protection as stipulated by the legal rule in question. If that law has no legal effect it cannot protect *qua* law. A fundamental right is protected by way of law, e.g. an anti-discrimination law is *enacted* and thus has *legal effect* – in that way law will aid in the protection against discrimination. Second, and crucially for our purposes, that **law offers protection by virtue of its very nature as a written legal speech**

---

[5] Examples drawn from M. Hildebrandt, 'A Philosophy of Technology for Computational Law' in D. Mangan, C. Easton and D. Mac Síthigh, *The Philosophical Foundations of Information Technology Law* (2021) at p. 6.

[6] 'Text-Driven Jurisdiction in Cyberspace' (n 1) p. 6; see J. Searle, *The Construction of Social Reality* (The Free Press, 1995).

[7] See e.g. P. Henttonen, Records, *Rules and Speech Acts: Archival Principles and Preservation of Speech Acts* (Tampere University Press 2007).

act. As such, it has certain affordances that it has by virtue of its technological embodiment: text. The multi-interpretability of human language – as embodied in technological expressions of script and the printing press – provides an ever-moving target for the settlement of meaning. **Meaning is constituted and re-constituted in its use, but instead of collapsing in a relativistic and subjectivist assemblage of 'private languages', it stably guides us and provides us with the contestability that is core to the Rule of Law.** Legal effect as attributed by competent authorities and drawn from the sources of law thereby affords us the closure that legal protection by design requires. We cannot assume that this type of legal protection, the type that is provided by the contestability of natural language and safeguarded by the checks and balances instituted by the Rule of Law, will translate flawlessly to different technological embodiments that law may come to be expressed in. This means reconstituting the countervailing powers pivotal to the Rule of Law into the architectures of law's possible new modes of existence by way of legal protection by design.

3.4.3 Sources of Law

3.4.3.1 Working definition

1. The sources of law refer to the set of written and unwritten resources from which binding legal norms are 'drawn'; the sources do not contain information about the law, they constitute the law as they decide what counts as law.
2. The sources of law are usually limitatively summed up as:
    - written sources:
        i. international treaties
        ii. legislation
        iii. case law
        iv. doctrine
    - unwritten sources:
        i. fundamental principles
        ii. customary law.
3. Treaties, legislation, case law, fundamental principles and custom present binding legal norms.
4. A constitution can be written (legislation) or unwritten (customary law); it constitutes the legal powers of the state and the rights of its citizens.
5. Doctrine contributes to the interpretation of binding legal norms, though it is not binding in itself, the same goes for recitals in treaties, opinions of advocates general (advisors) of highest courts and other formal advisory bodies (e.g. the European Data Protection Board).
6. The binding force of fundamental legal principles do not depend on whether or not and how they have been codified in written sources; they are tied up with the core tenets of the Rule of Law and the moral and institutional grounding of the law.
7. Customary law binds due to *usus* (actual adherence) and *opinio necessitatis* (a shared sense of obligation).
8. To select and apply a relevant legal norm implies an act of interpretation; the act of selection and application cannot be reduced to a logical sequence though it must be justifiable in the form of a

syllogism; the need to justify the choice and the interpretation of a legal norm restricts the decisional space of public administration and the courts, thus bringing them under the Rule of Law.

9. Interpretation cannot be arbitrary, legal doctrine distinguishes grammatical, systematic, historical and teleological interpretation, i.e. taking into account the ordinary meaning of the relevant terms, the place of the norm within the relevant legal source, the legislature's intent as derived from official documents, and the aims of the relevant legal source; courts have discretion in selecting and combining these methods of interpretation but the exercise of such discretion is bounded by the demands of legal certainty, justice and purposiveness of the law.

3.4.3.2 Examples of how 'sources of law' is used

A few examples can be given to illustrate what the term 'sources of law' means in the legal context:

- Multilateral international conventions are a source of law for states that ratify them that can become part of the positive law of the domestic legal order in various ways, depending on whether the state in question is has a monist or dualist system.
    - E.g. The Vienna Convention on Road Traffic sets out i.a. the requirements that must be met when driving outside the country of registration. It includes a binding obligation for states to recognize the legality of vehicles from signatory countries.
- Case law is a binding source of law, and a large number of states also adhere to a rule of binding precedent or 'stare decisis'.
    - E.g. Someone is apprehended on an outstanding warrant for driving with a suspended license. After the arrest has already been made, the police search the vehicle without a warrant and find drugs. The case is brought to court, which rules that because this search had been conducted without a warrant it violated the Fourth Amendment's prohibition of unreasonable searches and seizures. This decision is binding as a source of law and sets a rule of precedent that needs to be followed in principle in consequent cases.
    - In coming to the decision whether or not this is a violation of the Fourth Amendment the court must make use in their legal interpretation and reasoning of a fundamental principle of 'reasonableness' as source of law in coming to their conclusion.

3.4.3.3 The meaning of 'sources of law' in terms of MoE, affordance, LPbD

As the entry on legal effect has made clear, modern positive law consists of legal speech acts to which we attribute legal effects if a set of specified conditions has been fulfilled. This includes both written and unwritten performatives, i.e. utterances that have legal effect, which are closely connected with institutional facts but also with the so-called sources of law. The term 'source' clearly has a very specific meaning in law; sources of law can be seen as the speech acts that are constitutive of the legal norms in a given legal system and set out the preconditions for what else can qualify as a legal norm to which legal effect can be attributed. As Hildebrandt has put it:

> A source of law (1) provides legal norms with authority based on their origin, and (2) makes legal norms binding in their effect. First, it refers to the origin or provenance of valid legal norms, that can only be derived from specific sources that thereby give authority to legal norms. […] To ensure legal certainty, only a limited set of sources counts as sources of law: international treaties, legislation, case law, doctrine, fundamental principles and customary law. Only these sources provide legal norms with authority and make them binding in a specific jurisdiction (either national, international, or supranational).[1]

The sources of law are a key element of the current mode of existence of the law. To explain this further, it is important to recognize the importance of law's ability to guide our conduct, as channelled through the sources of law, and to do so in a different and more conclusive way than sources of norms like politics or ethics. The sources of law are in large part tied up with the notion of legal certainty, the nature of legal effect as written speech acts and the state's monopoly of violence. Legal certainty dictates that rules need to be agreed upon beforehand lest we end up having to resort to economic, political, or military power to sort out the disagreements that will inevitably arise. This is why the positivity of modern law is of the utmost importance for legal protection.

As the working definition explains, to select and apply any relevant legal norm implies an act of interpretation which cannot be reduced to a logical sequence (although it must be justifiable in the form of a syllogism); in this way the need to justify the choice and the interpretation of a legal norm restricts the *decisional space* of public administration and the courts, thus bringing them under the Rule of Law. However, some sources of law are more straightforward than others: specific legal rules can either be said to apply to a specific situation or case or not, whereas fundamental principles of law are less straightforward in their interpretation and application. Principles of law do not function the same way as rules: they are implied in other legal sources and inform the applicability and application of legal norms and function as part of the 'implied philosophy' that guides us in deciding the law. So, deciding what applies to the circumstances and to the facts of a case will require legal reasoning and interpretation in accordance with the implied philosophy of the law – it is a fundamentally thoughtful and deliberative exercise. As the introduction and previous entries in this Research Study have borne out, this freedom of interpretation is due to the 'open texture' of the law and the multi-interpretability of natural language. It is law's current mode of existence as a text-driven, and thus inherently adaptive, system that provides the freedom to interpret the law in a variety of ways. This inevitably generates uncertainty, which is seen by some as a bug that needs to be solved but is actually a central feature of the law that affords a distinct type of legal protection 'by design', facilitating the possibility to contest that is core to the Rule of Law.

Legal certainty then, afforded us by the positivity of law and exemplified by the stability offered by the sources of law, is part of the implied philosophy of the law because it allows individuals to plan their lives. So, legal certainty is crucial for providing people with the foreseeability and predictability they require of the law in conducting their everyday lives. However, if we were to focus on legal certainty and concomitant notions of foreseeability and predictability alone as the supreme value of a legal system, we might find ourselves under authoritarian rule or decisionism – in the realm of legalism rather than legality. Therefore, legal certainty must be complemented by justice and instrumentality as guiding principles for our interpretive choices in the legal domain. Balancing the three core values that make up an

[1] M. Hildebrandt, *Law for Computer Scientists and Other Folk* (2020, Oxford University Press), pp. 18-19.

antinomian understanding of law constitutes an evaluative exercise that requires recognition that these goals of law might be incompatible in particular cases and requires making choices in pursuit of the right balance.

> Legal certainty must be complemented by justice and instrumentality as guiding principles for our interpretive choices in the legal domain

So, the implied philosophy of law can be understood in Radbruchian terms and taken to include the following notions: (1) *legal certainty* which, as explained above, entails the need for the law to be stable and foreseeable. This can be taken to denote law's 'positivity' which refers to it being posited by a legislature in accordance with the sources of law and is tied to the state's monopoly of violence. The sources of law thus carry enormous weight, not as a matter of formalist or legal positivist theory, but as giving validity to legal norms and thereby avoiding the conflation with either politics or morality (which equally does not necessarily imply a strict separation between law and morals); (2) *justice*, in this context, represents "the idea of law" which can be understood as the purpose in light of which all of its constituent parts should be constructed. It refers to equality in the sense of 'treating equal cases equally, and unequal cases to the extent of their inequality'.[2] This entails striking a balance between distributive and corrective justice, where the former calls for the equal treatment of equal cases and the latter asks that punishment and compensation should be proportional to the harm caused or extent of culpability or wrongfulness.[3] Finally, (3) *instrumentality* entails that the law can be understood as 'an instrument to achieve a variety of goals that are in part external to its own operations'.[4] Instrumentality accounts for the social or political impetus behind a norm but retains its focus on 'what benefits the people'.[5]

This all connects us back to speech act theory, as discussed under the entry on legal effect, because this is where law differs from either brute fact and force or propositional logic. We are then once again in the realm of the technologies that afford us the distinct type of legal protection by design that consists in a powerful dynamic between interpretability, contestation and closure that defines text-driven law. Legal certainty, understood in the way that is explained above, originated in context of natural language and the multi-interpretability as afforded by the ICI of written text and the printing press.

---

[2] G. Radbruch, 'Legal Philosophy' in K. Wilk (ed.), *The Legal Philosophies of Lask, Radbruch, and Dabin* (HUP 1950), p. 74.

[3] M. Hildebrandt, *Law for Computer Scientists and Other Folk* (2020, Oxford University Press), pp. 35-36.

[4] Ibid.

[5] G. Radbruch, 'Statutory Lawlessness and Supra-Statutory Law (1946)' (2006) 26 *Oxford Journal of Legal Studies* 1, p. 6.

3.4.4 Jurisdiction

3.4.4.1 Working definition

Jurisdiction refers to legal power and to where such power is applicable.

1. It may refer to:
    i. the sovereign's competence to legislate, adjudicate, and enforce;
    ii. the territory or domain over which a state holds jurisdiction in the first sense.
    iii. the competence of a specific court to adjudicate, which is defined by material and/or procedural conditions.
2. Note that since the Peace of Westphalia (1648) jurisdiction depends on sovereignty, which in turn is defined by territorial jurisdiction.
3. The circular interdependence relates to the two sides of the same coin:
    i. Internal sovereignty provides for national jurisdiction and vice-versa
    ii. external sovereignty defines international jurisdiction and vice-versa
    iii. internal sovereignty cannot exist without external sovereignty and vice-versa.
4. Jurisdiction can in principle be based on:
    i. territory (modern law is aligned with territorial jurisdiction)
    ii. personal status (birth, kinship, membership of a religion)
    iii. subject matter (criminal jurisdiction, private law jurisdiction)
    iv. the effect of an action that gives rise to a legal claim (e.g. in tort law).
5. In the current world order, we can distinguish:
    i. national jurisdiction
    ii. international jurisdiction
    iii. supranational jurisdiction.
6. As to national jurisdiction we can distinguish:
    i. internal jurisdiction, that is, the competence to legislate, adjudicate, and enforce the law within the state
    ii. extraterritorial jurisdiction, that is, the competence of one state to legislate, adjudicate, or enforce its law on the territory of another state.
7. International jurisdiction depends on the sources of international law.
8. The relationship between potentially overlapping jurisdictions is itself subject to the jurisdiction of a national court (e.g. international private law) or an international court (notably in international public law).
9. The question who gets to decide on jurisdiction is often called: Kompetenz-Kompetenz; it refers to the question of what entity has jurisdiction to decide jurisdiction.

3.4.4.2 Examples of how 'jurisdiction' is used

As the working definition demonstrates, jurisdiction is a complex notion that is used in a variety of ways depending on the situation and context. Examples of jurisdiction in context are:

- Supranational jurisdiction entails that member states of a supranational organization have decided to cede part of their sovereign competences to the organization in question.
    - E.g. EU Regulation 2019/631 sets CO2 emission standards for new passenger cars and vans, meaning every member state will have to abide by its provisions and implement it directly into national law as a binding legislative act of European Union Law.
    - Issues regarding implementation of or compliance with such Regulations or other EU legislation are justiciable and can be brought to the Court of Justice of European Union that will have general or exclusive competence to adjudicate on those matters.
- A citizen of the Netherlands drives her car over the border to deliver stolen goods in Germany. Both the Netherlands (extraterritorially, e.g. on the basis of citizenship/nationality of the defendant) and Germany (e.g. on the basis of territory where the criminal act was committed or completed) can claim and exercise jurisdiction over the case.

Because jurisdiction is a ubiquitous and multifaceted concept in law, the following section will focus on territorial jurisdiction.

3.4.4.3 The meaning of 'jurisdiction' in terms of MoE, affordance and LPbD

Historically, the concept of jurisdiction precedes that of 'territory' and that latter concept has therefore often been explained in terms of the former.[6] This raises the question of how jurisdiction came to be grounded in territory and became such an important architectural feature in law's current mode of existence – several authors have argued that to explain this historical shift we have to turn to a specific technology and its associated affordances: cartography. This argument is convincingly made by Ford who posed in his 'History of Jurisdiction' that territorial jurisdiction is a relatively recent invention and that it is an affordance of the technology of modern cartography without which the modern demarcation of defined territories that enable jurisdiction would not have developed.[7] Ford highlights four typical characteristics of modern, territorial jurisdiction: (1) authority is exercised primarily by area, rather than by status or family; (2) the clear demarcation of territory is not ambiguous or contested (except in crisis or transition); (3) territory is abstractly and homogenously conceived, meaning that jurisdiction implies authority over an empty geographic space, defined by latitude and longitude, not by its 'contents'; and, lastly, that (4) cartographic mapping produces a "gapless" map of political territories.[8] The combination of these factors, he argues, grounded the Westphalian system of mutually exclusive territorial jurisdictions and thus afforded external sovereignty.[9] Jurisdiction 'reduces space to an empty vessel for government power'[10] and these spaces were

[6] 'Text-Driven Jurisdiction in Cyberspace' (Keynote Hart Workshop 26-28 April 2021) (n 1) at p. 4.

[7] R. Ford, 'A History of Jurisdiction' (1999) 97 *Michigan Law Review* 843, 843.

[8] Ibid at p. 854.

[9] M. Hildebrandt, 'Extraterritorial Jurisdiction to Enforce in Cyberspace? Bodin, Schmitt, Grotius in Cyberspace' (2013) 63 (2) *University of Toronto Law Journal* 196, at pp. 206-7.

[10] Ford (n 1) at p. 854.

filled by government that could exercise power over that geographically demarcated area, which is why territorial jurisdiction, according to Ford, can be considered 'the midwife of the administrative state'.[11]

It is interesting to note that historically jurisdictions overlapped and competed and were not dependent on the idea of sovereignty or statehood.[12] However, jurisdiction is deeply connected to the concept of the sovereign state because, in short, sovereignty concerns the ultimate state authority that can create or alter or terminate legal relationships and obligations within a defined territory.[13] Internal and external sovereignty are two sides of the same coin – they are mutually constitutive.[14] The former entails the establishing of the modern state within defined territorial borders where the sovereign can legislate, adjudicate and govern and the latter amounts to the sovereign having the power to do all those things within its territory to the exclusion of all other entities or actors (also known as the principle of non-interference). The two are dependent on each other because without external sovereignty no internal sovereignty could be exercised in the face of continuous threat of interference by foreign powers and without internal sovereignty there would be no need for external sovereignty. Territorial jurisdiction and sovereignty are thus clearly interconnected and are consequently often defined in terms of each other, and scholarship struggles with determining which of the two concepts has logical precedence. Many definitions of sovereignty can thus also be found in international legal scholarship that define it in terms of territorial jurisdiction. As was for example usefully demonstrated by this non-exhaustive overview composed by Richard Builder:[15]

> I think that the term sovereignty is very generally used to mean simply a state's right to do as it wishes, particularly within its own territory, free of external constraint or interference. But here are some more scholarly definitions:
>
> - The American Heritage Dictionary defines sovereignty as 'supremacy of authority or rule as exercised by a sovereign or sovereign state' or, alternatively, as 'complete independence and self-government.'
>
> - Max Huber, as Arbitrator in the 1926 Island of Palmas case, wrote that: 'Sovereignty in the relations between states signifies independence. Independence in regard to a portion of the globe is the right to exercise there, to the exclusion of any other states, the function of a state.'
>
> - Judge Alvarez, in his individual opinion in the Corfu Channel case, wrote that: 'By sovereignty, we understand the whole body of rights and attributes which a state possesses in its territory, to the exclusion of all other states, and also in its relations with other states.'
>
> - Helmut Steinberger, in the Encyclopedia of Public International Law says that: 'Sovereignty denotes the basic international legal status of a state that is not subject, within its territorial jurisdiction, to the

[11] Ibid at p. 870.

[12] 'Text-Driven Jurisdiction in Cyberspace' (n 1).

[13] M. Shaw, *International Law* (CUP, 2014) at p. 469.

[14] J. Waldron, 'The Rule of Law and the Importance of Procedure' (2011) 50 *Nomos* 3-31.

[15] R. Bilder, 'Perspectives on Sovereignty in the Current Context: An American Viewpoint' (1994) 20 *Canada-United States Law Journal* 9, pp. 10-11 (footnotes omitted).

governmental, executive, legislative, or territorial jurisdiction of a foreign state or to foreign law other than public international law.'

- Professor Lou Henkin, in How Nations Behave, writes that the principle holds that: '[E]xcept as limited by international law or treaty, each state is master of its own territory.'

- And at the recent ASIL meeting, Professor Tom Franck suggested, interestingly and much more broadly, that a going definition of sovereignty is the loci of the formation of rights and duties generally recognized as establishing and implementing entitlements, distributions and obligations.

As stated above, the notion of territory provides a global mapping of sovereign entities that defines and determines external sovereignty as well as internal sovereignty. The clear demarcation of territory is also articulated as a precondition for external sovereignty as stipulated in the Montevideo Convention on Rights and Duties of States (1933) that is also a rule of customary international law.[16] This entails that conventionally conceived a defined territory is one of the preconditions for the recognition of sovereign authority (and associated rights and capacities) in the international legal context and, as a rule of customary international law, is binding upon all states. Actors who do not meet the requirement of territory do not qualify for statehood under international law and can be sidelined and left without any formal legal power. As Fleur Johns points out, territory and territorial sovereignty are still the 'primary basis for marking out the earth's surface and organizing its inhabitants in law' and is predominant as an 'architecture of association'.[17] As Swiss diplomat and international lawyer Emer de Vattell said in 1758: 'to remove every subject of discord, every occasion of quarrel, one should mark with clarity and precision the limits of territories'.[18]

Having demonstrated the importance of territory for the sovereign jurisdiction, let us zoom in on the technology that made it all possible: cartography. The emergence of cartographic practice has been very important in the development of human society.[19] It is debatable whether the progression from text to cartography was quite as linear as the standard Enlightenment narrative suggests but it is clear that maps have indeed played a key role: they were first used to visualize national borders in the 17th century and provided the 'cartogenetic infrasture' that has 'inscribed – and circumscribed – the conditions of possibility for a statist 'ground map'.[20] In his paper 'The Visual Conquest of International Law' Nikolas Rajkovic discusses how territory has wrongly been exalted as geographic or geological objectivity, as a brute fact of geology,

[16] Montevideo Convention on Rights and Duties of States, opened for signature 26 December 1933, 165 LNTS 19 (entered into force 26 December 1934), article 1.
[17] F. Johns, 'Data Territories: Changing Architectures of Association in International Law' (2016) *Netherlands Yearbook of International Law* 107.
[18] Vattell 1760, p. 137 as cited in F. Johns, 'Data Territories: Changing Architectures of Association in International Law' (n 17).
[19] N.M. Rajkovic, 'The Visual Conquest of International Law: Brute Boundaries, the Map, and the Legacy of Cartogenesis' (2018) 31 (2) *Leiden Journal of International Law* 267, at pp. 284-85.
[20] Ibid at p. 286.

rather than as the product of a particular value-laden technology.[21] The goal of his paper is important: to question the widespread presumption that the practice of mapping and dividing our earth into defined and exclusive territorial patches of land that, literally, ground our legal space is inevitable. Rajkovic is deeply wary of what he calls cartography's *geo-teleology* or in other words how cartography as a technology afforded a quintessentially state-centered notion of territory and the inscription of the state that has come to define to a large extent law's current mode of existence.[22] Rajkovic cites a host of sources from critical scholarship that evaluate cartography and practices of mapping (take Latour: 'On such an empire – the empire of cartography, the world order. The all-encompassing Globe – the sun never sets…'[23] or what William Rankin calls our dominant *geo-epistemology* in the face of changing spatial practices[24]). But it is beyond the scope of this Research Study to say whether this technology is good or bad. The point is to say it is in fact a technology and therefore it is never neutral. Given this, it is important to draw attention to its specific affordances and the legal protection by design it facilitates. In short, the point is partly, to follow Rajkovic in his use of Wittgenstein's metaphor, to expose cartography, and the printing press and text more generally, as the 'invisible scaffolding' of intelligibility and ultimately cognition when it comes to law.[25] However, these technologies are both more and less than mere scaffolding. Less in the sense that law can conceivably be built without them, albeit not automatically with the same legal protections, as we endeavor to construct different architectural infrastructures that are less dependent on these specific technologies (but will inevitably be dependent on others). Simultaneously, it is more than scaffolding in that modern mapping provided us, as Rajkovic calls it, with a *cartogenerative* infrastructure: in the process of depicting the world, for better or for worse, cartography (re)made that world.

For good or for ill, it is thus clear that territorial jurisdiction is the product of specific technologies (cartography and the printing press) and that it is also closely aligned with sovereignty. However, it is by no means a direct or causal line from these technological embodiments to the legal protection by design associated with text-driven law: the Rule of Law, democracy, and the protection of fundamental rights. The fact that these technologies afford these things does not mean that they are straightforward or guaranteed, as is clear from the very nature of affordances, but it does mean that they could not have existed in their current form without these technologies.

3.4.5 The texture of text-driven normativity

A Dutch citizen is arrested in the Netherlands shortly after stealing a car. We can say that the statement 'she stole a car' is true when the facts of the situation are proven to satisfy the set of legal conditions that define when something constitutes as theft as set out by the provision in the criminal code in a court of law, thereby triggering the legal effect that she is now punishable for the offence under Dutch criminal law. From the

---

[21] My thanks to Dimitri van den Meerssche for pointing me to this article and his interesting points made during discussions with the COHUBICOL team on the notions of jurisdiction and territory.

[22] Rajkovic (n 14) at p. 275.

[23] B. Latour, 'Onus Orbis Terrarum: About a Possible Shift in the Definition of Sovereignty' (2016) 44 *Millennium* 305, at 308-9 as cited in Rajkovic (n 14) at p. 282.

[24] W. Rankin, *After the Map: Cartography, Navigation, and the Transformation of Territory in the Twentieth Century* (University of Chicago Press, 2016), pp. 2-5 as cited in Rajkovic (n 14) at p. 271.

[25] L. Wittgenstein, *On Certainty* (Anscombe and von Wight eds. 1972) at sec. 211 as cited in Rajkovic (n 14) at p. 275.

moment she performs that legally relevant act her legal status as a legal subject has now changed, and her rights and obligations have been altered in light of this act. However, under Dutch jurisdiction theft does not apply between spouses so if it turns out the stolen car is actually the property of her spouse she will not be prosecuted or punishable for that offence. If the incident had happened within the territory of a different state, under a different jurisdiction with different criminal laws as a matter of positive law, this exception might not have applied.

This example illustrates concretely the connection between the three concepts under discussion in this chapter: 'legal effect' is the term we use to refer to the consequence of a legally relevant (f)act and entails a change in the legal status of a legal subject, for example a change in their subjective rights or legal powers, their rights or obligations. This can for example consist in the attribution or voiding of obligations or the qualification of some state or behaviour as either lawful or unlawful. As mentioned above, the necessary condition for legal effect to be attributed is the fulfilment of a certain set of legal conditions as specified in positive law, which can be found in one of the sources of law. As positive law depends on and can differ per jurisdiction, legal effect in turn will also differ per jurisdiction (which is not to say that some legal effects may not be common to many jurisdictions). Sources of law, jurisdiction and legal effect are therefore inextricably linked and are at the core of the legal protection afforded by text-driven law. The sections in this chapter have sought to demonstrate the deep connection between law's current mode of existence as text-driven, speech act theory and the world of institutional facts. But it is important to note speech acts will not magically 'do what they say', and legal speech acts will therefore also not automatically bring about the legal protection we desire or need. Crucially, whether a speech act has performative effect therefore depends on a shared acceptance of or acquiescence in the world of institutional facts it is embedded in. It builds on a pragmatist understanding of language and depends 'on a shared background consisting of hidden assumptions, mutual beliefs and a joint practice that grounds the use and thereby the meaning of words and more generally of human action'.[1]

Whether a speech act has performative effect depends on a shared acceptance of or acquiescence within the world of institutional facts in which it is embedded

While action and perception in this context have been explained in terms of agent-environment dynamics and affordances, where affordances are traditionally defined as what the environment offers the animal in terms of possibilities for action,[2] the world of abstract and conceptual legal thought seems less straightforwardly accommodated in those terms. Rather than trying to fit absent, abstract or counterfactual thought – or institutional fact – into the classic understanding of affordances as originally conceived by Gibson, it is therefore perhaps better to view this in terms of 'enlanguaged affordances'.[3] This notion puts emphasis on the ways in which the affordances of the human ecological niche

[1] M. Hildebrandt, 'A Philosophy of Technology for Computational Law' in D. Mangan, C. Easton and D. Mac Síthigh, *The Philosophical Foundations of Information Technology Law* (forthcoming 2021) at p. 6.

[2] J.J. Gibson, *The ecological approach to visual perception* (1979, Boston: Houghton Mifflin) at pp. 127-128.

[3] J. Kiverstein and E. Rietveld, 'Scaling-up skilled intentionality to linguistic thought' (2021) 198 (1) *Synthese* pp. 175-194.

are interwoven with practices of speaking and writing.[4] Speech and writing allow us to engage with affordances across long timescales and allow us to think in abstract and institutional terms about the world. The meaning of an utterance comes from a language game as a whole and the contexts they are embedded in place constraints on their meaning – there is no private language. The very nature of the web of meaning, as Taylor puts it, is to be 'present as a whole in any one of its parts. To speak is to touch a bit of the web, and this is to make the whole resonate'.[5] It also by virtue of the open-texture of natural language and text that interpretation has become the hallmark of modern positive law. For if we did not have multiple ways of interpreting or constructing meaning within our larger web of meaning, we would not have the possibility to argue over the most fitting one or contest the ones we think do not fit within that larger fabric of our legal institutional order. In that way, it also invites us to reflect about the systematicity, or integrity, of the body of legal norms taken together as a whole.

The legal protection offered by virtue of the law's text-driven ICI needs to be safeguarded because these are affordances of the ICI of text that, in turn, afford us to institute the checks and balances that make up the Rule of Law. As Waldron says, to deny the possibility of arguing for a given interpretation 'is to truncate what the Rule of Law rests upon: respect for the freedom and dignity of each person as an active center of intelligence'.[6] The law, in its current mode of existence, by virtue of the affordances of natural language and printed text, can always be contested by those who are expected to apply it to themselves. Legal protection by design then is by no means a pre-emptive exclusion of the use of different technologies in the legal realm, rather it can be understood as a manifesto for the preservation of *thoughtfulness* in law. Thoughtfulness in this sense, following Waldron, means the 'capacity to reflect and deliberate, to ponder complexity and to confront new and unexpected circumstances with an open mind, and to do so articulately (and even sometimes argumentatively) in the company of others with whom we share a society' and means putting the focus on a conception of the Rule of Law that embodies this and on the dignity that can be found in being ruled accordingly.[7]

Legal protection by design reminds us that even though notions like the sources of law and legal effect are important for the sake of safeguarding law's core values like certainty and predictability, these latter values are not the be all and end all of the law. They need to be weighed against other values – in a continuous evaluative exercise, and it is that exercise and the procedures that facilitate it that are of the utmost importance and affords us lasting protection. Legal protection by virtue of countervailing powers, institutions and procedures. As Waldron reminds us:

> [Practitioners] know very well that anything approximating 'mechanical jurisprudence' is out of the question. Law is an exceedingly demanding discipline intellectually, and the idea that it consists in the

---

[4] E. Cuffari, E. Di Paolo & H. De Jaegher, 'From participatory sense-making to language: There and back again' 14(4) *Phenomenology and the Cognitive Sciences* 1089-1125 as cited in Kiverstein and Rietveld (n 35) at p. 176.

[5] C. Taylor, 'Language and human nature' in *Human agency and language: Philosophical papers 1* (CUP, 1985) p. 231 as cited in Kiverstein and Rietveld (n 3) at p.186; also see generally L. Wittgenstein, *Philosophical investigations* (trans: G.E.M. Anscombe) (Blackwell 1953) and H.-G. Gadamer, *Truth and Method* (1979).

[6] J. Waldron, 'The Concept and the Rule of Law' (2008) 43(1) *Georgia Law Review* 1, pp. 59-60.

[7] J. Waldron, 'Thoughtfulness and the Rule of Law' (2011) 18 *British Academy Review* 1-12, at p. 1.

> thoughtless administration of a set of operationalised rules with determinate meanings and clear fields of application is of course a travesty.[8]

The adaptive nature or productive ambiguity of natural language might have been a happy accident for the legal protection afforded to us by law's current mode of existence, but this does not mean it is a bug. Rather, it is arguably law's most important feature. Much of the push for the optimization of law is thus based on a fundamental misunderstanding of what the end goal is and what legal protection consists in: interpretative exercises are not subjectivist inefficiencies, argumentative practices are not infinite and inherently relativistic back-and-forths, legal standards are not indeterminate and inchoate rules that still need to be concretized. These are all procedural elements core to the Rule of Law that encourage thoughtfulness, rather than force thoughtlessness upon us.

3.4.6 Anticipating legal protection under data- and code-driven normativity

If legal effect is a matter of attribution in the context of laws, which are understood as speech acts with illocutionary force, the difficulty of data- and code-driven applications in law becomes clearer. Whereas law exists in the realm of *illocution*, the force of technology lies in *perlocution*. This means that the performative effect of law cannot be instantiated in code in the same way as in text-driven world, simply because code has different affordances and cannot 'do things with words' like natural language affords. Mathematical patterns are not speech acts - e.g. legal analytics, as exemplified by applications like Westlaw Edge, can be said to be *about* law, but it does not *constitute* law. It has no legal effect unless we attribute it. When discussing developments like legal analytics, and computational law more generally, countless important questions can and should thus be raised. For example:

1. What performative effects will legal analytics ultimately have? Can code count as a legal agreement having legal effects?
2. Can 'smart contracts' have legal effect as we have defined it and how will we institute sufficient levels of legal protection if it does?
3. *Who* decides on whether (and which types of) computational law will come to have legal effects?
4. What will change in the *kind* and *extent* of our legal protection when legal effects are attributed to computational law?
5. Will the emergence of computational law entail a reconfiguration of the sources of law?
6. Can data- and code-driven notions of jurisdiction ever afford us the predictability and legal certainty that legal systems under the Rule of Law require?
7. How will our legal protection change if our notion of jurisdiction becomes data- or code-driven?

[8] Ibid, at p. 4.

3.5 Legal Subject, Subjective Rights, Legal Powers

Laurence Diver

3.5.1 Introduction

Central to the notions of legal subjectivity, subjective rights, and legal powers is the fundamentally artificial nature of law. These legal concepts are part of a human-made 'symbolic universe' of legal institutional fact,[1] sustained through continued collective and individual practices and the materials and artefacts they rely upon. In the legal mode of existence, entities from the infinitely complex concrete world are *qualified* into forms that are intelligible to law. At that point they can be manipulated within our shared legal Welt, built of institutions that allow for interpretation, argumentation, and the temporary 'closure' of legal effect.

What *appears* to be a legal subject, subjective right, or legal power might not, in fact, be *legal* at all

Along with rights and powers, legal subjectivity is a fundamental concept in any legal system, without which the very concept of a legal 'system' does not make a great deal of sense. As with other institutional aspects of law, it is an artificial construct and not something that is naturally 'there'. Thus its nature and the protection it can offer us is contingent on our continual invigoration of the concept, within the shared Welt of law, which so far has relied on text as the medium that makes possible its mode of existence. Protecting these fundamental concepts means keen attention must be paid to how they have come into being, and how they can be sustained. This requires deep investigation into the conditions of their possibility, always bearing in mind that what appears to be a legal subject, subjective right, or legal power might not, in fact, be *legal* at all.

3.5.2 Legal Subject

3.5.2.1 Working definition

1. A legal subject is an entity capable of acting in law, of having subjective rights and of having legal obligations.
2. Most jurisdictions attribute legal subjectivity to two types of entity:
   i. Human beings, called natural persons
   ii. All other entities attributed legal subjectivity, called legal persons.
3. A legal subject is not the same thing as either the human being or the non-human entity that is granted legal subjectivity. Instead, it is akin to an *avatar* that enables them to play specific role(s) in law.
   i. This means that being a legal person does not necessitate being a *moral* person, that is a being that is capable of acting morally.

[1] Alain Supiot, *Homo Juridicus: On the Anthropological Function of the Law* (Saskia Brown tr, Paperback edition, Verso 2017) ch 1; Neil MacCormick, *Institutions of Law: An Essay in Legal Theory* (Oxford University Press 2007) ch 2.

4. Positive law determines what entities qualify as legal subjects.
    i. In current constitutional democracies, natural persons have full legal subjectivity (in all domains of law).
    ii. Legal persons have restricted legal subjectivity, as defined by the relevant positive law.
5. In principle non-humans can be attributed legal personhood by a legislator, e.g. corporations, associations, but also animals or artificial agents.
6. In most jurisdictions the following entities are given legal personhood:
    i. The state (federal and sub-federal level), public bodies such as cities, regions
    ii. International organisations
    iii. NGOs
    iv. Corporations (various types)
    v. Associations, foundations, charities.
7. Legal subjects may have limited capacity, as defined by positive law, e.g.
    i. Minors may not enter contracts, unless authorised by their parents
    ii. A minor may not be liable under tort law, though their parents may be liable instead
    iii. A corporation may be able to conclude contracts and be held liable under private law, but may not be punishable under criminal law (this depends on jurisdiction)
    iv. A natural person may be placed under guardianship in case of mental incapacity, in which case they cannot perform juridical acts.
8. A legal person will necessarily require representation by one or more natural persons to act in law, to exercise their standing in court, to exercise their rights and fulfil their legal obligations.
9. Legal personhood is restricted to the remit defined by the legislator or the courts. Which means they are not necessarily entitled to human rights:
    i. The European Court of Human Rights has e.g. decided that corporations may have a restricted right to privacy.

3.5.2.2 Examples of how 'legal subject' is used

The legal subject is the representation of an entity, human or non-human, that is recognised under law as a holder of rights and duties. Most legal subjects can also exercise legal powers, with or without the help of a legal representative.

Different legal subjects can transact with one another on level terms. This means for example that an individual *natural person* is empowered to purchase a car from a multi-national corporate *legal person*, with the *legal effect* of the contract binding both sides despite their difference in nature and size.

The abstract uniformity of the legal subject allows the latter to assert rights and powers under the Rule of Law, no matter the particular characteristics of the underlying entity it represents. This means that in principle all are given equal opportunity to argue for a legally effective remedy.

Only a legal subject can perform juridical acts, such as entering into a contract; other 'things' might have relevance for the law, such as cars, mountains, or money, but these 'legal objects' are what is transacted with by legal subjects.

Not all legal subjects can act in the same ways – they have different sets of subjective rights and legal powers. For example, a minor or someone with serious cognitive impairments (both natural persons) will be unable lawfully to enter into certain kinds of contract, such as marriage, or to engage in certain acts, such as driving.

Who and what is given legal subjectivity is determined by positive law. Since the horrors of World War II, however, all humans have been given legal subjectivity by default, in order to provide a minimum threshold of legal protection.

The range of possible legal persons varies between jurisdictions. The classification of a multi-national car manufacturer as a legal person, for example, is the result of a process of incorporation. This means the requirements and process for creating a company defined by the positive law of a particular jurisdiction have been met and followed, with the legal effect of creating a new legal person with legal subjectivity.

Only positive law can bestow legal subjectivity: an autonomous car, a rock, or a cat cannot have legal subjectivity unless and until the positive law says otherwise. It follows that legal subjectivity is not a given, but a choice reflected in positive law.

3.5.2.3 The meaning of 'legal subject' in terms of MoE, affordance and LPbD

3.5.2.3.1 Mode of Existence

The creative fiction of the legal subject is a fundamental building block of a legal system.[1] It is an avatar that represents us within the legal form of life, a mask that human beings 'wear' when they perform on the stage of the legal 'play'. Indeed, the notion of 'personhood' comes from the Latin *persona*, which has its roots in theatre.[2] The character we adopt by donning the mask – our persona, our avatar – is designed to move and act within the dimension of legal institutional fact, asserting rights, discharging duties, and exercising powers there. It is thus a pragmatic representation of the human or non-human, defined to protect them and to enable them to operate effectively within the legal *Welt*.[3] It does this by abstracting the complexity of the 'real' person or entity to the extent necessary to facilitate, between legal actors, activities that are compatible with and within the symbolic universe of the law.

[1] This is 'creative fiction' in a positive sense, as opposed something fake or falsified. See J. Dewey, 'The Historic Background of Corporate Legal Personality' (1926) 35 *The Yale Law Journal* 655, n 1.
[2] N. van Dijk, 'In the Hall of Masks: Contrasting Modes of Personification' in M. Hildebrandt and K. O'Hara (eds), *Life and the Law in the Era of Data-Driven Agency* (Elgar 2020), p. 232.
[3] Dewey (n 1), p. 660ff.

> The legal subject is an *avatar* that represents us within the legal form of life

For individuals, the legal subject is a denaturalisation of the "concrete physical or biological details" of the ineffable human being, separating our legal status in the legal *Welt* from our intimate, 'real' selves.[4] While this denaturalisation might appear impersonal or sometimes even harsh, it is a necessary step in creating an *enforceable* normative order that can balance extreme particularity (which risks arbitrary and therefore unjust treatment) with the brute enforcement of rules regardless of the circumstances (which risks a collapse into an unreflective legalism).[5]

Beyond this balancing role, the legal subjectivity that text-driven normativity makes possible allows us 'count as a human being' in a double-sided way. On the one hand it protects our individuality (our moral right to develop a *subjective* view of the world), and on the other it *subjects* us to the normative order of the law. It is thus a framework of constraint that simultaneously, and symbiotically, empowers and protects us. This is the inter-relationship between enablement and protection: the abstraction that *protects* the human being also facilitates a measure of *certainty* in the interactions between legal actors.

As an artificial construct built of institutional fact, the legal subject is in no sense 'found', or a given – it is a *designed* notion that is brought into being in each case by means of speech acts that follow conventional procedures specified in positive law. This design includes properties that are de facto interoperable both with other legal subjects (even those of a very different nature: a natural person can contract with a corporation) and with the operations that law makes possible through the attribution to the legal subject of rights, powers, and duties.

This abstract, 'empty form'[6] is the starting point shared by all legal subjects a priori of any rights, powers, and duties they hold or are subject to. This uniform shape provides a baseline of compatibility with the processes of law, which in turn allows societal stability to evolve, since legitimate mutual expectations can develop between legal subjects in the knowledge that they are backed by (i) Rule of Law processes that allow for interpretation of and argumentation about the norms underpinning those expectations, and (ii) judicial enforcement of an authoritative interpretation of them.

The nature of the legal subject implies the institutional nature of the legal system, just as the institutional nature of the legal system implies a kind of legal subject that is able to hold subjective rights and legal

[4] van Dijk (n 2), p. 234. One affordance of this artificiality is that Modern presumptions about the objective reality can be resisted in the service of contingent ends specified in positive law. Consider for example the law's treatment of adopted children, who *by law* receive all the same rights vis-à-vis their parents as do their siblings, or the way the fate of the *filius nullius* (illegitimate child) has changed as societal mores have evolved.

[5] L.L. Fuller, *The Morality of Law* (Yale University Press 1977) 72; Z. Bańkowski, 'Don't Think About It: Legalism and Legality' in M.M. Karlsson, Ó.P. Jónsson and E. Margrét Brynjarsdóttir (eds), *Rechtstheorie: Zeitschrift für Logik, Methodenlehre, Kybernetik und Soziologie des Rechts* (Duncker & Humblot 1993).

[6] van Dijk (n 2), p. 238.

powers.[7] Legal system and legal subject are therefore co-constitutive, drawing our attention to the nature of the legal subject that a certain kind of law could support, and vice-versa. This underlines the notion that the legal subject is of the law, and the law is of the legal subject, with neither making much sense independently of the other. The institutionality that this relies upon is dependent upon certain material conditions of possibility,[8] specifically the technologies that afford institutionality in the first place.

3.5.2.3.2 Affordance

Abstraction is a central part of the mode of existence of the legal subject: it is a *representation* with legal 'interfaces' that allow it to interact with other legal subjects within the legal system. Legal subjectivity is thus paradigmatically about the ability to hold rights, to exercise powers, and to be subject to duties. In terms of legal interaction, these are affordances provided by the legal Welt that specify just what the legal subject can actually *do* in that domain.

Legal system and legal subject are co-constitutive, drawing our attention to the nature of the legal subject that a certain kind of law could support, and vice-versa

The question of affordance thus operates on two levels with respect to the legal subject. First, to what extent does the technological medium afford the institutional mode of existence of the legal subject? And second, what affordances does the legal subject have *within* the legal-institutional dimension so afforded? The answers to these two questions are intertwined; each is dependent on the other and cannot be viewed in isolation. The second class of affordance arises separately from, or perhaps in parallel with, the affordances of text that make the institutional fact of legal subjectivity possible in the first place.

On the first level, a 'legal subject' that is not brought into being by performative speech acts might not be *institutional*, which means in turn that the protection otherwise offered by the interpretability and contestability of the textual norms that underpin those speech acts will be replaced by something else. As its foundations change, then, so too will the baseline of legal protection that the legal subject represents. This might not be a bad thing, if the capabilities necessary for that protection are retained, namely the ability to hold rights and exercise powers, to be subject to duties, and to have these interpreted authoritatively by a court that is authorised to enforce that interpretation.

On the second level, once operating 'in' the legal-institutional dimension, under text-driven normativity the legal subject creates legal effect through operations made by reference to the legal norms that make this possible, subject always to their contest and the finding by a court that what they have done (or purported to do) is in some way unlawful.

---

[7] This reflexivity is evident in Dewey's pragmatic notion of the legal subject as a "right-and-duty-bearing unit", which implies whatever system is necessary to support it. See Dewey (n 1), p. 661. This 'retrospective' approach is a fundamental element of law's mode of existence, and potentially at odds with the profoundly ex ante nature of computation, discussed below.

[8] H.Y. Kang and S. Kendall, 'Legal Materiality' in M. Del Mar, B. Mayler and S. Stern (eds), *Oxford Handbook of Law and Humanities* (Oxford University Press 2019).

What the legal subject can actually do is considered below in relation to rights and powers. But the idea of the subject and its institutional environment being co-constituted, and indeed implied by the kinds of things we want legal subjects to be able to do. Gibson's idea of a *niche* can help us make sense of this:

> A species of animal is said to utilize or occupy a certain niche in the environment. This is not quite the same as the *habitat* of the species; a niche refers more to *how* an animal lives than to *where* it lives. I suggest that a niche is a set of affordances. The natural environment offers many ways of life, and different animals have different ways of life. The niche implies a kind of animal, and the animal implies a kind of niche.[9]

If a niche implies a certain kind of animal and its way of life, then the types of niche a habitat makes possible imply the possible types of animal that it can support (and, importantly, those it cannot). In the legal-institutional dimension of the legal ecology, the 'animal' is the legal subject, whose niche consists of the contingent set of rights and powers that it holds. Thus, the niche (a set of *legal* rights and powers) implies a kind of animal (a form of legal subject), while the animal (the legal subject) implies a kind of niche (one that consists of *legal* rights and powers).

The current mode of existence of law demands a set, or niche, of affordances of a certain type, which in turn co-constitutes a certain type of legal subject

This highlights just how the current mode of existence of law demands a set, or niche, of affordances of a certain type, which in turn co-constitutes a certain type of agent, i.e. the legal subject as we have described it.

3.5.2.3.3 Legal Protection by Design

As discussed above in the section on legal norms, the institutionality of legal norms, so far reliant upon the underlying technology of text, both affords parties the possibility of contesting the interpretation of the norm and affords the court the ability to reason toward a legally-valid judgment. This ever-present tension between the corpus of institutional facts and the possibility of contest provides legal protection under text-driven normativity.

By contrast, where the 'legal subject' is not *instituted*, and is not operating withing a corpus of *legal norms* (themselves institutional facts), it cannot avail itself of that *same form* of protection with respect to those norms, since the mode of existence of both the subject and the norm is based upon a different set of affordances. Put another way, the niche inhabited by the legal subject shifts from one consisting of legal rights and powers (*qua* legal-institutional affordances) to one consisting of something else.

In that case, the assertion of a 'right' or the exercise of a 'power' takes place not as a speech act built on the contestable institutional fact of a legal norm, but by some other mechanism based on some other mode of existence. Again, this is not necessarily a bad thing, provided that the substance is retained of those

[9] J.J. Gibson, *The Ecological Approach to Visual Perception* (Classic Edition, Psychology Press 2015), p. 120.

characteristics which give legal institutionality its normative value in terms of legal protection. Whether this is possible, and how to do it, is a key question for design.

We saw above that a central purpose of the legal subject is to provide an abstraction that simultaneously *protects* and *subjects*: it provides uniform 'interfaces' that allow for the holding and assertion of rights and powers, while at the same time ensuring every legal subject is subjected to this same system.

> At the same time as providing *protection* to all, legal subjectivity imposes *constraint* on all, through *subjection* to the Rule of Law

In the first case, the legal subject keeps law at arm's length, allowing our authorship of our real selves to continue under the cover of its mask – metaphorically speaking, law interacts with and operates on the avatar, not directly with the concrete human being.[10] This shielding of our individual natures protects them from the excesses of the market, preventing us from being exploited directly as "pure commodities",[11] as happened under slavery, or in the Holocaust, where human beings were divested of even that name.[12] At the same time as providing this *protection* to all, legal subjectivity imposes *constraint* on all, through the *subjection* to the Rule of Law that Dicey pointed to in his famous aphorism, "no man is above the law".[13] Here, for 'man' we can substitute 'legal subject', underlining that in principle the largest corporations and even the state are subjected equally to the Rule of Law. For this reason, the legal subject is simultaneously a protective shield and an empowering tool, and can be, when necessary, a weapon.[14]

The protection provided by the legal subject is made possible by its mode of existence, constituted as it is by positive law with its basis in text as an externalising medium of legal institutional facts. The text affords the protected entity (or their/its legal representative) the ability to refer to the legal text(s) that provide for their rights, powers, and the duties concomitant with these. This takes place within the shared legal Welt, with its commitment to the Rule of Law that underpins enforcement of those texts, subject always to interpretation and argumentation when disputes arise.

The idea of legal subjectivity provides the framework within which all of this is made possible, quite apart from the content of individual rights and powers themselves, which will vary between jurisdictions. Without an anterior construct that is capable of holding rights, it becomes easy to arbitrarily deny individuals those

---

[10] M. Hildebrandt, *Law for Computer Scientists and Other Folk* (Oxford University Press 2020), p. 241; van Dijk (n 2), p. 233.

[11] Alain Supiot, *Homo Juridicus: On the Anthropological Function of the Law* (Saskia Brown tr, Paperback edition, Verso 2017), p. 95.

[12] This is why in the wake of the Second World War, states committed to giving all natural persons legal subjectivity by default, providing a basic level of protection prior to the attribution of any additional rights: see e.g. the United Nations Universal Declaration of Human Rights, Article 6.

[13] A.V. Dicey, *An Introduction to the Study of the Law of the Constitution* (10th edn, Palgrave Macmillan Limited 1985), p. 193.

[14] As in, for example, strategic litigation aimed at curbing the excesses of a government.

rights.[15] Legal protection is thus contingent on the existence of a framework that retains these core characteristics, by whatever means they might be made effective:

1. the ability to hold legal rights and to exercise legal powers,
2. the possibility of being subjected to legal duties,
3. the opportunity to interpret legal sources to identify exactly what the state of rights, powers, and duties is at any given time, and to contest these before an authoritative adjudicator,
4. the ability of the judicial system to make and enforce an authoritative interpretation,
5. the reasonable ability to appeal any such interpretation.

If a new medium or technology affords these elements, congruent with the notion of the legal subject developed above, then it can claim to embody at least one aspect of legal protection by design, thus protecting the legal subject by protecting what makes a difference in the legal-institutional mode of existence.

3.5.3 Subjective Rights

3.5.3.1 Working definition

1. A subjective right is always relational (between legal subjects, with regard to one or more legal objects, such as a property or an obligation). It can be one or more of the following:
   i. a claim – attributed by positive law – of a legal subject, that one or more other legal subjects act or do not act in a certain way in relation to that legal subject, and/or
   ii. a liberty – attributed by positive law – of a legal subject, that they are free to act in a certain way in relation to one or more other legal subjects, and/or
   iii. a legal power – attributed by positive law – of a legal subject, that they are free to use in relation to one or more other legal subjects.
2. In private law two generic types of rights are distinguished:
   i. Rights *ad personam*, or relative rights, that can only be invoked against specified other legal subjects. Such rights include those resulting from a contract, a tort action, unjustified enrichment.
   ii. Rights *erga omnes*, or absolute rights, that can be invoked against any and all legal subjects. Such rights include ownership, usufruct, right of way and intellectual property rights.
3. A *claim right* assumes an obligation or a duty on the side of one or more other legal subjects, e.g. a legal obligation to pay compensation (in the case of a tort or breach of contract), or a duty of non-interference (in the case of ownership).
4. A *liberty right* assumes that other legal subjects do not have a claim that one does or does not act in a specific way, e.g. in the case of ownership other legal subjects have no claim that the owner

[15] As Arendt notes, "the first essential step on the road to total domination is to kill the juridical person in man". H. Arendt, *The Origins of Totalitarianism* (Harcourt Brace Jovanovich 1979) 447.

uses their property in a certain way, which demonstrates that property rights are bundles of claim and liberty rights.

5. A *legal power* assumes that one or more other legal subjects may be required to act or not act in a specific way, e.g. the legal power to transfer property implies that all legal subjects must now respect the right to property of the new owner and refrain from interference (in case of a property right), or the legal power of the government to impose taxes that implies that citizens must pay taxes (in case of the right of the state to unilaterally impose a duty to pay taxes).
6. In legal theory further distinctions are made, such as immunities, permissions and competences.
7. The precise meaning of claims, liberties, powers, immunities, permissions and competences often differs between private and public law (and between national and international law).

3.5.3.2 Examples of how 'subjective rights' is used

Subjective rights are relations between legal subjects that depend on the Rule of Law for their recognition and enforcement.

Subjective rights are closely connected with legal powers, the exercise of which change the set of rights and duties legal subjects hold and are subject to. For example, a property right in some good, such as a car, entails the legal power to dispose of it, for example by sale.

Subjective rights entail concomitant *duties* on one or more other legal subject(s). For example, when you purchase a car, the contract of sale attributes to you a right to receive the vehicle, as well as placing you under a duty to pay the agreed purchase price. By the same token, the contract places the showroom under a duty to supply the vehicle, but also gives it a right to receive the purchase price.

Subjective rights can be *relative*, existing between specified legal subjects, as in the example above of the contract between the purchaser of the car and the showroom. This is also known as a right *ad personam* – it is enforceable only between the purchaser of the car and the showroom.

Subjective rights can also be *absolute*, existing between a legal subject and all others, as in the right of the owner of the car not to have her possession of it interfered with, or her right as a driver to be treated with reasonable care by fellow road users. This is also known as a right *erga omnes* – it is enforceable by the owner or driver of the car against every other legal subject. Someone who tries to steal the car, or who damages it through negligent driving, infringes that right, and becomes *liable* to a court judgment requiring in the former case restitution of value and punishment, and in the latter the payment of damages.

In private law, subjective rights are *horizontal* between legal subjects, with the state 'watching over' as guarantor of the relationship and adjudicator of any dispute.

In public law, subjective rights are *vertical* between the legal subject and the state (although relationships with the state can be horizontal too, for example where a car manufacturer supplies vehicles to the government under a contract, in which case the state is acting in a 'private' capacity).

Fundamental rights are also subjective rights. For example, the collection of personal data by the various sensors in a (self-driving) car will be subject to the limits set by the fundamental right to data protection.

3.5.3.3 The meaning of 'subjective rights' in terms of MoE, affordance and LPbD

3.5.3.3.1 Mode of Existence

As with many other concepts in law, the mode of existence of legal rights is one of institutional fact, borne of the *legal norms* that define them as such and that subsequently attribute them to particular legal subjects as a matter of *legal effect*. This means, again, that legal rights are artificial constructs and not direct representations of pre-existing moral norms or 'natural laws' (although of course the articulation of rights in the text of positive law will often reflect such norms).

The 'practical effectiveness' of such rights again depends on their mode of existence, since as we have seen it is upon this that the whole normative and protective apparatus of the Rule of Law relies. Through the interpretability of the text, the institutional fact of the right can be argued for by the legal subject or their representative, and in turn authoritatively deduced by the court by means of another speech act, namely a judgment.

The 'practical effectiveness' of rights depends on their mode of existence, since it is upon this that the whole normative and protective apparatus of the Rule of Law relies

This is true even where the right is not unequivocally laid down in an explicit rule. It is often the case, for example, that the court will adopt a principled interpretation of legal sources to identify a right where previously it might not have been recognised. This is made possible by the mode of existence of text-driven law, since the multi-interpretability of the legal text, and its necessary distantiation from the legislature that authored it, allows for the court to interpret 'into being' the institutional fact of the right, within the justificatory limits imposed by valid *legal reasoning*.

For this kind of process to be initiated will require a party with *standing* to do so, usually the legal subject or their direct representative. Once again, this ability depends on the mode of existence of such rights – their accessibility as texts, their interpretability in light of the other norms and facts with which they can be said to interact, and ultimately the ability to formulate these into a novel legal argument that, if successful, finds the existence of the right as argued for.

3.5.3.3.2 Affordance

The section on legal subjectivity above identified two levels of affordance, the first of which concerns those affordances of the technological medium that underpins law. The effects at that level of affordance with respect to subjective rights are the same as with other institutional concepts that make up the legal system – their mode of existence relies upon the externalisation of norms in text, which in turn allows for the multi-interpretability, contest, and iterant closure of judicial interpretation that is a hallmark of the Rule of Law. Without these affordances of the underlying technology, institutionality in the form we know it is likely impossible. When those affordances are present, the legal subject can, before the court, assert the existence of a right by reference to those materials that can validly evidence its existence within the legal Welt.

Without certain affordances provided by the underlying technology, institutionality in the form we know it is likely impossible

As before, on the second level of affordance we focus on what it is possible for the legal subject actually to do within the legal Welt. Here we can think of subjective rights and legal powers as affordances *within* that Welt, made possible by its mode of existence. We return again to the roots of affordance theory, and the idea of the legal ecology and its legal-institutional dimension, discussed earlier. We saw there how the legal subject is an agent, situated within an institutional environment that both co-constitutes it and delimits how it can act in that environment.

To paraphrase Gibson's oft-quoted definition of affordance, rights and powers specify what the legal-institutional dimension "o*ffers* the animal [i.e. legal subject], what it *provides* or *furnishes*, either for good or ill." The actions made possible by the legal system for the legal subject to perform are thus affordances of the legal-institutional dimension, in turn built upon the affordances of text that exist within the material dimension.[1] This adaptation of the definition of affordance highlights that legal rights and powers have no necessary connection to ethical norms (they might be 'good or ill'). It also emphasises their contingent nature, and how they depend on the nature of a specific legal subject in a specific legally-relevant context.

Taking this ecological analysis even further, we saw above how the idea of a *niche* refers to the set of affordances that imply a certain kind of agent. The 'empty form' of the legal subject is co-constitutive of the legal-institutional dimension, in the sense that institutional law only makes sense in light of a certain kind of legal subject, and vice-versa. We can think of the contingent set of rights held by the legal subject as its niche within the legal-institutional dimension. There, the possible types of affordance – rights and powers – are defined by positive law, in accordance with a particular guiding philosophy, or *pre-position*, summed up in the notion of the constitutional state or *Rechtstaat*.[2] This guiding philosophy combines the legal certainty of positive law with the prospect of ex post judicial interpretation, which reflexively prefigure the niche that the legal subject inhabits and by means of which it interacts with other legal subjects. This implies a reflexive equilibrium between the kinds of right and power that are compatible with a constitutional state, and the kind of niche, legal subject, and institutional normative order that can support their existence.

3.5.3.3.3 Legal Protection by Design

This, then, brings us back to the first level of affordance: whether or not the underlying technology or medium affords the legal-institutional dimension determines the kinds of rights and powers that can in turn afford. If

[1] The idea of 'layered' or 'sequential' affordances building on one another to facilitate the law is considered in L. Diver, 'Law as a User: Design, Affordance, and the Technological Mediation of Norms' (2018) 15 *SCRIPTed* 4.

[2] See e.g. M. Hildebrandt, 'Radbruch's Rechtsstaat and Schmitt's Legal Order: Legalism, Legality, and the Institution of Law' (2015) 2 *Critical Analysis of Law* 42. On the idea of a guiding pre-position, see e.g. B. Latour, *An Inquiry into Modes of Existence: An Anthropology of the Moderns* (Harvard University Press 2013) p. 57ff, and W. James, *Pragmatism* (Dover Publications 1995), lecture 2.

whatever notion of 'right' that is present does not embody the same spirit as legal-institutional rights, then the normative order which relies upon this shared characteristic will likely start to falter.

One can see from the examples above that the set of relationships between legal subjects can quickly become complex, even for ostensibly simple transactions such as sale. Some measure of complexity is inevitable, however, given the aim of legal protection: while the vast majority of interactions between citizens conclude without incident, when things *do* go wrong the parties must be in a position to know where they stand in relation to one another, i.e. what their respective rights and duties are. This necessitates a system that is as complex as necessary (but no more[3]) to conceptualise these relationships in light of the goal of legal protection, and in turn to make clear what their consequences are for a dispute.

This is where the question of design arises, when computational platforms and artefacts are introduced to law. Does their design uphold the various dimensions of the normative order that make it possible to determine legal subjects' rights, including in novel sets of circumstances? And, prior to that question, does the design support the institutionality that begets the form of legal right that lies at the heart of the protection that law offers? That form reflects an ongoing tension between on the one hand the universality of the legal texts that specify the right, and on the other the ability of the court to interpret their nature and extent in response to a particular dispute, in light of governing legal principles, the Rule of Law, and the purpose of the textual norm.[4]

'Rights' which fail to reflect that tension are not *legal* rights; instead they are more akin to individuated *permissions* that facilitate isolated acts outside of the normative framework of the law. The latter is built on institutionality, which implies a role for checks and balances and the authoritative but ever-evolving 'closure' provided by judicial interpretations of legal norms.[5]

When considering Legal Protection by Design, we must consider whether or not the very *concept* of a legal right is protected

The design of technologies that are involved in the practice of law must therefore pay close attention to the nature of the rights they are tasked with representing, upholding, or enforcing. Any new technology will inevitably be a novel introduction, designed in relative short-order and 'dropped' into the legal system without the benefit of centuries of legal culture that can incrementally sediment it within the slow emergence and evolution of the legal Welt. The perturbations that ripple across the system as a result of this must be anticipated.

---

[3] Hohfeld's influential taxonomy of atomic 'incidents' that make up subjective rights arguably complicates more than it clarifies, albeit that it succeeds in demonstrating the relational and balanced nature of rights. See W.N. Hohfeld, *Fundamental Legal Conceptions as Applied in Judicial Reasoning* (W.W. Cook ed, Yale University Press 1923).

[4] G. Radbruch, 'Five Minutes of Legal Philosophy (1945)' (2006) 26 *Oxford Journal of Legal Studies* 13.

[5] Hildebrandt, *Law for Computer Scientists* (n 11), chapter 11; L. Diver, 'Computational Legalism and the Affordance of Delay in Law', (2021) 1(1) *Journal of Cross-disciplinary Research in Computational Law*.

When considering legal protection by design, therefore, we must ask not just whether one or more specified rights are protected within any new computational artefact, but whether or not the very *concept* of a legal right is protected, with all the normative depth that necessarily comes with it.

3.5.4 Legal Powers

3.5.4.1 Working definition

1. A legal power refers to the ability of a legal subject to achieve an intended legal effect.
2. A legal power is attributed by positive law.
3. One can have a legal power to attribute legal powers.
4. All legal powers are both constituted and constrained by positive law.
5. The written or unwritten Constitution of a state attributes legal powers to legislate, administrate and adjudicate, thus calling them into existence (the constitution 'constitutes' these powers), and qualifying them (the constitution also 'regulates' these powers, e.g. by attributing them to countervailing powers).
6. In the case of public law legal powers are constrained by the legality principle.
7. In the case of private law legal powers are constrained by the reasonableness principle (or equity in common law jurisdictions).
8. The attribution of legal power plays out in all domains of law:
    i. Private law, for instance, attributes to the owner of a legal good the legal power to transfer related property rights, provided specific conditions have been fulfilled
    ii. Criminal law, for instance, attributes to the court the legal power to impose specified (maximum) punishments, provided the conditions of a specific criminal offence have been fulfilled
    iii. Administrative law, for instance, attributes to legal subjects the legal power to object to decisions made by public administration, provided specific conditions apply
    iv. International law, for instance, attributes to states the legal power to conclude treaties, subject to the constraints imposed by the sources of international law.

3.5.4.2 Examples of how 'legal powers' is used

A legal power gives a legal subject the ability to perform juridical acts that have the legal effect of changing the legal status of itself and/or other legal subjects.

Legal *powers* highlight the fact that law is not just about regulating what legal subjects can do, as is often assumed, but also about *empowering* them to create new states of enforceable legal effect.

Public legal powers enable authorities to, for example, legislate (parliament) or adjudicate (courts and tribunals). Parliament has the legal power, for example, to impose a universal speed limit on public roads within its jurisdiction.

Private legal powers enable legal subjects to, for example, conclude contracts of sale, employment, or marriage. They also enable the creation of *new* legal subjects such as companies, charities, or indeed children (that is, the legal subjectivity of the child that is born).

Legal powers often accrue as the result of holding subjective rights. For example, one has the legal power to sell one's car (power of disposition) because one owns it (the subjective right of ownership entails the power of disposition).

Legal powers are generally dependent on the legal subject having the capacity necessary to exercise them. For example, a minor or someone with serious cognitive impairments will be unable to conclude a marriage contract, due to lack of majority age or the ability to give fully-informed consent, respectively (in some jurisdictions both conditions will apply to the minor).

3.5.4.3 The meaning of 'legal powers' in terms of MoE, affordance, LPbD

3.5.4.3.1 Mode of Existence

Where the legal subject is the fundamental actor within the legal Welt, legal powers are the fundamental means of acting within its institutional domain, in ways that are compatible both with its existing granular processes and with its implied philosophy. This again is based on institutional facts built around speech acts that follow conventional procedures specified by positive law. Legal powers are thus distinct from other forms of power (e.g. political, physical, technological) in that they create new *institutional* facts that are recognised by the legal normative order.

The kinds of *legal norm* that define the nature of a legal power, and *how* validly to exercise it, are sometimes referred to as 'secondary rules'. This is in contrast to the 'primary rules' that specify what it is we should or should not do under some legal duty.[1] To demonstrate the difference, consider that the legislature exercises its legal power, specified under a constitutional secondary rule, to create a speed limit that will apply on public roads. Similarly, the legal subject exercises her power, specified by a secondary rule found in the law of contract, to purchase a car from the showroom. As we saw earlier, this contract contains primary rules that require both her to pay the purchase price and the showroom to supply the car,[2] while the speed limit is a primary rule that requires her to drive her new car at less than a certain speed (subject to exemptions).

Legal subjects are free to exercise a legal power provided they have the necessary capacity, and the other conditions specified in the secondary rule(s) defining that power are met.

Those conditions will have a common general structure:

1. What [legal subject(s)], having
2. either what active capacity or what competence based on some position or appointment [e.g. a public office],

---

[1] H.L.A. Hart, *The Concept of Law* (Clarendon Press 1994), pp. 27–42.

[2] As we saw earlier, these duties combined with complementary rights to receive ownership of the car and to receive the purchase price, respectively.

3. in what required circumstances, and
4. in the absence of what vitiating circumstances or factors,
5. by what if any special procedures or formalities, and
6. by what act
7. in respect of what if any other [legal subject(s)]
8. having what general capacity
9. can validly bring about a certain legal change?[3]

(although it should be noted that these elements are unlikely to be found in one place in the positive law.)

Each of these elements plays a part in the valid performative of the speech act that seeks to exercise the power. In this way, the myriad and varied acts that legal powers make possible can nevertheless be fit into a recognisable structure, which in aggregate facilitates the stable (but flexible) set of mutual expectations underpinning societal stability. Once again, this allows us to abstract from the complexity of real-world circumstances those factors which have relevance with respect to the institutional definition of the legal power.

Given the institutional nature of legal powers, failure to meet the necessary requirements results in either a legal nullity (something *void*, with no legal effect), or a legal effect that is void*able*, that is to say an effect that is *liable*, or vulnerable, to 'cancellation' by a court.[4]

We can see here the temporal aspect of the institutional mode of existence of legal norms: those who are party to the purported exercise of the legal power may well continue to act as if it were valid, even if legally speaking it is void. But once it is realised that something is wrong, the ability of the parties to contest the institutional fact that arose from that exercise comes into play. For example, the showroom supplies the customer with a car that was significantly defective in a way that was not immediately apparent. After discovery of that fact, the purchaser can argue that the car was not of 'merchantable quality' under consumer protection law, and thus that the contract ought to be 'cancelled'.

Conferral of a power cannot be by sovereign fiat but must be done on a legal basis, subject to the checks and balances of the Rule of Law

The above is an example from the private law of contract, but this is also a common experience in administrative law, with respect to the exercise of legal powers by public authorities. Many administrative law cases, at least in the common law world, hinge on disputes as to whether or not a public authority has acted *ultra vires* (that is, outside the powers given it by positive law). In such cases the purported legal effect of the act of a public authority can also be 'cancelled' by the court.

All legal powers must derive from secondary rules that are legitimated under the legality principle. This means the conferral of a power cannot be by sovereign fiat but must be made on a legal basis, subject to the checks and balances of the Rule of Law. Again, any purported attempt to subvert this is made

[3] N. MacCormick, *Institutions of Law: An Essay in Legal Theory* (Oxford University Press 2007), pp. 156-57.

[4] The precise legal term for this kind of 'cancellation' varies between jurisdictions and legal domains, as do the exact consequences in terms of legal effect, but for present purposes the notion of cancellation is sufficient.

challengeable by dint of the mode of existence of legal powers: the institutional nature of the secondary rule and the normative order within which it is purported to be exercised.[5] As with subjective rights, this has important implications for the legitimacy of computational systems that 'confer powers', in terms of *who* confers them, what 'confer' means in that context, and what sorts of 'power' can possibly be so conferred.

3.5.4.3.2 Affordance

As with subjective rights, we can think of legal powers in terms of two levels of affordance – first, those provided by the medium and technologies that underpin law-as-we-know-it, and secondly those that determine what is possible within the legal-institutional dimension, or Welt, that is thereby made possible.

At that second level, institutional law affords us the *empowerment* discussed above – it allows the legal subject to become a "private legislator" in ways that can reflect contingent needs and interests,[6] all of which is given the normative backing of legal enforceability, subject to contest, that facilitates "legitimate mutual expectations".[7]

Given the institutional nature of legal powers, they can never be exercises of brute force or bare sovereign power, because the mode of existence of text-driven law resists this by its very nature. Legal powers are relationships of affordance between legal subjects and the broader normative order, again configured pragmatically and co-constitutively by what is actually needed to make such a system work in practice. In this way the parts entail the whole, and vice-versa: a system that seeks to enable the exercise of powers, enforceable when necessary but always subject to checks and balances, cannot be a system that facilitates brute force. It follows that the converse is also true.

Returning to the notion of *permissions* discussed above, we can appreciate then that the valid exercise of a legal power, much like the assertion of a right, is not merely a case of answering the 'single-dimensional' question of 'do I have permission X so that I can perform action Y'. Like the rest of the law, the exercise of the power takes place within a much more complex and multi-dimensional framework that includes not just the set of requirements listed above (whether implicitly or explicitly specified), but also the broader context of legal process that facilitates contest of that exercise after-the-fact.

> Legal powers are not isolated *permissions*, but necessarily come with normative 'baggage' that is what qualifies them as 'legal'

In this sense, then, legal powers are not isolated capabilities, where the legal system affords a singular legal act, but rather they have attached to them a whole raft of normative 'baggage' that is what qualifies that singular act as *legal*. What makes a power 'legal', then, as opposed to something else, is that which implies

[5] A dramatic example is the attempt in 2019 by the UK Government to 'prorogue' (temporarily suspend) Parliament, which was found by the Supreme Court to lie far beyond the limits of its legal power to do so. See *Cherry and others (Respondents) v Advocate General for Scotland (Appellant) (Scotland)* [2019] UKSC 41.

[6] Hart (n 1), p. 41.

[7] Hildebrandt, *Law for Computer Scientists and Other Folk* (n 11), p. 45.

the system of legal effect within which it has purchase. This is the institutional Welt made possible by the affordances of text.

3.5.4.3.3 Legal Protection by Design

The above implies that powers cannot be conferred arbitrarily, but must have a legitimate source in the form of a secondary legal norm. Where it is not possible to identify such a source, it is doubtful whether the resulting power can be said to be *legal*, and so we run the risk that that power is arbitrarily defined, lying outside the normative framework of legal protection that can curb any excesses it might otherwise enable.

Even where the conferred power is innocuous, that is to say its effects are not particularly harmful,[8] if the medium that makes it possible is used to facilitate the putative exercise of traditionally *legal* powers, the effects might be significant in terms of their effacement of the architecture of protection provided by the current mode of existence of law.

Where the conferral of powers is done by the (private) designer of a system, their role in determining the nature of the power might not accord with the constraints placed on the legislature by the legality principle in its creation of secondary legal norms.[9] This 'sovereign designer' creates a playing field that is separate from the legal 'game',[10] with commitments that might bear no relation to legal protection whatsoever, and powers (as affordances within the geography of the system) granted to the 'user' that are not institutional by nature, with all the attendant normative structure this mode of existence entails. Legal Protection by Design is concerned with constraining any such system so that it retains this connection to the institutional Welt, ensuring that a technological instantiation of a power reflects the institutional affordances of its textual counterpart.

> Legal Protection by Design is concerned with constraining design so that it retains a connection to the legal-institutional Welt

3.5.5 The texture of text-driven normativity

We can bring together some of the earlier examples discussed in this Research Study to think about how the concepts of legal subject, subjective right, and legal power depend on a certain mode of existence, whose affordance by the technology of text in turn affords legal protection.

---

[8] An obvious question that arises is 'who would assess this?', for the answer to which one need only point to legality and the Rule of Law as the animating forces that lie at the centre of law-as-we-know-it.

[9] This is the central problem considered in L.E. Diver, *Digisprudence: Code as Law Rebooted* (Edinburgh University Press, 2022).

[10] H.Y. Kang and S. Kendall, 'Legal Materiality' in M. Del Mar, B. Mayler and S. Stern (eds), *Oxford Handbook of Law and Humanities* (Oxford University Press 2019); C. Vismann and M. Krajewski, 'Computer Juridisms' (2007) 29 *Grey Room* 90.

Imagine a company director who, while driving in her new car to collect her daughter from school, is involved in a traffic accident. The set of rights and duties vary dramatically according to her overlapping roles (i) as a director, (ii) as a customer of the car showroom, (iii) as a parent, and (iv) as a driver. Under company law, she is deemed to be a representative of the corporation, which entails her having, amongst other things, various *fiduciary* duties to the company's shareholders (that is, to work in their best interests). As a parent, family law stipulates that she is under certain stringent *duties of care* towards her daughter. Under tort/delict law, she is owed, and owes, a duty of reasonable care to every other road user (and indeed to her passenger). In this scenario the company, its individual shareholders, the daughter, her teachers, the car showroom, and the other users of the road are all themselves legal subjects, with concomitant rights and duties. We can get a hint from even this very straightforward scenario of the types and complexity of the web of rights and powers that arise between legal subjects in the different but overlapping spheres of their activities.

Text-driven normativity cannot directly prevent the traffic accident by wresting control of the car from the driver, or by preventing her from driving at a certain speed – these would be examples of techno-regulation, compliance by design, or 'legal by design', each requiring technological intervention that goes beyond what text can impose.[1] What text-driven normativity *can* do, however, is provide a framework that prefigures the relationships between those involved in and affected by that accident, and the consequences that flow from it after-the-fact. Our driver inhabits very different roles as company director, mother, and road user, although of course these are interlinked and overlap. In each role she holds different rights and can exercise different powers, and of course she is under (very) different duties toward the various constituencies connected to each role, in time and in space.

3.5.5.1 Law as empowerment

Although perhaps daunting, this complexity demonstrates how the underlying structure of law in fact *enables* our myriad, overlapping activities and ways of life. Our shared institutional Welt is able to 'hold' all these relations, without them having to be specified in every detail in advance.

In turn, it gives us a systematic (but not formulaic) way of disentangling them when a conflict arises or an accident happens, such that we can 'make sense of' the situation and attribute appropriate rights, duties, and liabilities to the relevant legal subjects. This double contingency of new facts and existing norms allows for a flexibility in legal judgment, guided by an implied philosophy that balances legal certainty with justice and the purposive goals of the legislature. Legal protection is thus reflexive, operating both before and after the conflict arises.

[1] Intuitively, one might reasonably want accidents to be rendered 'impossible', but consider the wider implications of this goal in terms of what is qualified as an 'accident' (and *who* qualifies it as such). See e.g. R. Brownsword, 'Technological Management and the Rule of Law' (2016) 8 *Law, Innovation and Technology* 100; M. Hildebrandt, *Law for Computer Scientists and Other Folk* (Oxford University Press 2020), chapter 11.

3.5.5.2 Legal protection under text-driven normativity

The bi-directional nature of legal protection (we are both empowered and subjected) creates the level playing field of the Rule of Law, upon which heterogeneous entities, represented by their legal subjectivities, can engage by means of the rights that protect against incursions on interests, and the powers that allow those interests to be pursued.

> Without the institutional Welt, there are no *legal* players and no *legal* game

Without the institutional Welt, there are no *legal* players and no *legal* game, and without those any system risks breaking down, and along with it the specific kind of protection that law offers. Of course, it is possible to emulate elements of legal-institutional framework, but without the fullness of that framework in place they will not, and arguably *cannot*, provide the depth and spectrum of protection that law can.

Put another way, without institutional order (contestable norms, stability through time, enforceability by a legitimate authority, the possibility of appeal) any purported protection is unlikely to have the flexibility necessary for it to adapt to changing circumstances, even if *appears* effective at certain moments in respect of certain isolated sets of circumstances.

3.5.5.3 Protecting the legal subject by protecting the mode of existence

From an affordance perspective, we saw above that a conceptual distinction can be drawn between the material and legal-institutional dimensions of the legal ecology. The distinction highlights how the one is dependent on the other, and how protection of the mode of existence of law is necessary for protection of the legal subject.

In the material dimension, artefacts afford the externalisation of norms via written and printed text, and their transmissibility across space and time on media, both analogue (letters, libraries, writs) and digital (email, databases of caselaw and legislation). In this dimension of legal ecology are the immediate and direct interactions that human beings are afforded by material objects within their environment (*Umwelt*),[2] be that the steps to the courthouse, the revolving door of the municipal administration, or the conveyor belt at the cashier point in the supermarket. This immediate environmental level is where the concept of affordance is most commonly applied in design.[3] If we stop there, however, we will fail to take into account the broader institutional meanings which those material interactions contribute to, and in some cases constitute.

---

[2] See M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015), pp. 50ff; M. Heidegger, *Being and Time* (J. Macquarrie and E. Robinson trs, Blackwell 1962), p. 93 note 1.

[3] Cf. D.A. Norman, *The Design of Everyday Things* (MIT Press 2013).

We must therefore look beyond the material dimension to the legal-institutional dimension that it enables, upon which our shared legal Welt is built. Our experience of and interactions with material artefacts afford that Welt, both in the immediate environment, as mentioned above, and in the extended physical and temporal environment, as for example with the printing press hundreds of miles away, running perhaps many years ago to produce the materialised text which we use to 'perform' and sustain that Welt in any given moment.[4]

The affordances of text are the very means by which legal subjectivity, rights, and powers can fulfil their purpose of protecting the human

While we cannot *point* at legal subjects, subjective rights, and legal powers in the material dimension, we *can* see them evidenced in the practices and – especially – the documents of law.[5] A legal concept cannot exist solely in the mind, where it is limited to no more than a passing thought; it must be externalised if it is to have institutional status.[6] So while it might be tempting to think of the legal-institutional dimension as a purely mental phenomenon that is independent of technological medium,[7] legal-institutional facts, and the specific way they are made and 'performed', ultimately depend on affordances in the material dimension.

In this way the affordances of text are necessary constituents of the institutions of the legal subject, legal rights, and legal powers, and in turn are the very means by which legal subjectivity can fulfil its purpose of protecting the human.

3.5.6 Anticipating legal protection under data- and code-driven normativity

Without a legal subject that is constituted by a medium that allows for a shared understanding to be arrived at, we are at the mercy of the designers of that medium, in terms of whether or not its representations of the human afford us the ability to hold rights and exercise powers *of an institutional form*. Such a medium can only be said to provide legal protection *by design* if it respects these as the necessary conditions of possibility of any legal protection that is worth having.

This raises many questions for code and data as the putative media underpinning any future 'computational law'. For example:

1. Should such computational representations of legal subjects, rights, and powers replace their text-driven counterparts, or merely assist in identifying/executing/enforcing them? Can this distinction be maintained?

---

[4] P. Ricoeur, 'The Model of the Text: Meaningful Action Considered as a Text' (1973) 5 *New Literary History* 91, p. 96.
[5] On the latter, see C. Vismann, *Files: Law and Media Technology* (G. Winthrop-Young tr, Stanford University Press 2008); N. van Dijk, 'The Life and Deaths of a Dispute: An Inquiry into Matters of Law' in K. McGee (ed), *Latour and the Passage of Law* (Edinburgh University Press 2015).
[6] Cf. G. Ryle, 'Thinking and Saying' (1972) 58 *Rice University Studies*, p. 29ff.
[7] Cf. Weinberger's description of legal institutions as 'thought objects' in O. Weinberger, 'The Norm as Thought and as Reality' in N. MacCormick and O. Weinberger, *An Institutional Theory of Law: New Approaches to Legal Positivism* (Springer Netherlands 1986).

2. What changes in computer science and development paradigms would be needed to avoid the instrumental reductions, often commercially oriented, of the 'user' and of 'permissions'?
3. To what extent can any purported protection and enforcement of rights that is effected by code be compatible with the flexibility of interpretation that the implied philosophy of law requires?
4. How adaptable can the prospectivity of any code representation be to the contingent and changing relations between legal subjects?
5. Can multi-dimensional webs of normative relations be modelled, including the normative underpinnings that their institutionality necessarily entails?
6. How does the performance of a computational system differ from the performativity of a legal speech act?
7. Is a computational representation of the legal subject, or a subjective right or power, legitimised by dint of its promulgation by the legislature?
8. How might might the governing ideals of efficiency and elegance in software development make way for the governing ideals of the Rule of Law, incompatible as they will be in many cases with the former?

3.6 Legal Reasoning and Interpretation

Tatiana Duarte

3.6.1 Introduction

Reasoning and *interpretation* may take place in various contexts, as virtually anyone able to read may interpret law or have an opinion about the outcome of a case. In this contribution, legal reasoning and interpretation are understood as authoritative practices of the judiciary when deciding legal cases.

Legal reasoning and interpretation are different, although mutually constitutive, practices of the judicial activity. Their separate treatment is a (de)construction which is possible only by rationalising them as (mere) intellectual operations. The objective of such separation is highlighting their different outlines and the *expectations* each of them generates.

Legal reasoning and interpretation are mutually-constitutive practices

For the purposes of this contribution, we define legal reasoning and interpretation as follows.

1. *Legal reasoning* concerns the intellectual *trail* that connects a set of facts to the legal system in such a way that the latter is understood as ruling the former. [1]
2. Whereas *interpretation* corresponds to the attribution of authoritative meaning to legal norms through facts and to facts through legal norms, according to interpretative practices acknowledged as such by an interpretative community. [2]

However, we must keep in mind that, as authoritative practices, they overlap, as legal reasoning implies interpretation as much as interpretation implies legal reasoning. Their mutually constitutive character will be evident in some sections of this contribution, particularly where their practical aspects are approached.

---

[1] Some authors distinguish legal argumentation from legal reasoning, the former being the theory which studies the conditions for a satisfactory justification of judicial decisions, the latter, the one which studies how the individual decision derives from pure normative statements. This distinction may be found in F. Atria, *On Law and Legal Reasoning* (Hart Publishing 2001) p. 175, n. 10. This conceptual separation may be perceived as implying two different moments in the judiciary practice: (i) legal reasoning, i.e., a *procedure* or a *form* that allows deriving *individuals* (decisions) from *universals* (legal norms); (ii) legal argumentation, i.e., a substantive moment where the *interpretative content* and the *relations* between the norms of the legal system (either material, hierarchical, logical, systematic, etc.), as the relations between the legal system and the facts, allow the attribution of legal effect through an iteration between *ought* and *is*. Although it could seem that this distinction has some resonance in our contribution, reborn under the names of legal reasoning and interpretation, that is not the case. Logical inference neither exhausts, nor is exclusive of the process legal reasoning. Atria acknowledges that the referred distinction does not hold when legal reasoning is perceived as being dependent upon argumentation. Indeed, this work assumes the artificiality of the separation between legal reasoning and interpretation.

[2] For the concept of interpretative community, see the section 'modes of existence', under the concept of 'legal reasoning'.

3.6.2 Working definition

1. Legal reasoning concerns the justification of the determination of legal effect in a specific case. The justification is provided in the form of a syllogism:
    - The major: a legal norm that attributes specified legal effect if specified legal conditions are fulfilled
    - The minor: a specified set of legally relevant facts that, supported by evidence, fulfil the relevant legal conditions
    - The conclusion: the attribution of the specified legal effect.
2. The syllogism is not a method to find the legal effect but a way to test whether a legal norm does or does not apply. This test requires to choose the relevant legal norm, and both interpretation and legal reasoning.
3. The syllogism requires interpretation of the legal norm in the light of the facts and interpretation of the facts in the light of the legal norm. The following types of interpretation are deemed valid:
    - Ordinary meaning (grammatical or literal interpretation) based on the prevailing meaning of the norm's written articulation
    - Framers' intent (the intent of the legislature) as inferred from official documents
    - Systematic interpretation based on the role the relevant norm plays in the context of the relevant legal system (its place in the relevant statute, its relationship with other norms whether higher norms such as a Constitution or Treaty or precedent)
    - Teleological interpretation based on the purpose of the relevant legal norm, taking framers' intent, ordinary meaning and systematic interpretation into account.
4. The syllogism requires a decision about the extent to which a case is like or unlike other relevant cases. Such a decision requires one of two types of reasoning:
    - By analogy, arguing that since one case is like another the same legal norms applies to both
    - A contrario, arguing that since one case is different from another the same legal norm does not apply to both.
5. Legal reasoning is often defined as deontological reasoning (not about how things are but about how they should be) and understood as non-monotonic and defeasible logic. This means that whereas 'if a then b' is correct for now, additional information may render it incorrect.

3.6.3 Examples of how 'legal reasoning' and 'legal interpretation' are used

Let us import from Hart the famous *no vehicles in park* example to illustrate what we mean by legal reasoning and interpretation.[1]

[1] H.L.A. Hart, *The Concept of Law* (Oxford University Press 1994), pp. 124-129.

Imagine you arrive at a local park by scooter and see a signpost where it can be read *No vehicles in the park*.

You wonder:

1. Does a scooter count as a vehicle?
2. Is the word 'vehicles' only applicable to means of transportation that reach a certain speed threshold?
3. Can I explore the park by scooter or should I walk?

You conclude that the prohibition probably applies only to vehicles that might threat safety of the passers-by, like cars or motorcycles. You decide entering the park by scooter.

A police officer approaches and applies you a fine, arguing that you have violated a rule the forbids the circulation of vehicles in the park. You wonder how you can contradict such understanding and present your point of view.

If a court was confronted which such a case,[2] it could decide that, for the purposes of the prohibition, a scooter *is* a vehicle. In that case, the court would ground such decision on a (value-laden) *family resemblance*[3] between the *factual scooter* and the *normative concept* of *vehicle*,[4] and confer legal effect to the prohibition, for instance, by condemning the offender to pay a fine.

If a different interpretative path were adopted, the intellectual process of legal reasoning would not change in its structure, but would change its content.

The court could, instead, understand that a scooter does not have a normative *family resemblance* with a *vehicle* in the context of the prohibition, case in which it would conclude that the norm does not regulate the facts at stake. If that was the case, the scooter driver would not be fined.

This is where interpretation and legal reasoning intertwine and mutually constitute each other – the court attributes *meaning* to a legal norm (interpretation) and *uses* that interpretation to evoke that norm as the regulative criterion for closure (legal reasoning).

---

[2] If a person decided to enter the park driving her scooter and a police officer fined her for violating the prohibition (under the argument that a *scooter counts as vehicle*), she could contest the fine in court.

[3] The idea of family resemblance can be found in L. Wittgenstein, *Philosophical Investigations* (G.E.M. Anscombe tr, Macmillan Publishing 1953), §§ 67-68.

[4] The example must not be understood as if legal interpretation was reducible to a single semantic operation — it involves multiple iterations which are not exclusively semantic, but logical, axiological, systematic or teleological.

3.6.4 'Legal reasoning and interpretation' in terms of MoE, affordance and LPbD

3.6.4.1 Mode of Existence

3.6.4.1.1 Legal reasoning

The conceptual lenses of *modes of existence* allow us to overcome the tension between ontological and epistemological perspectives on law,[5] by pointing out the modes of veridiction embedded in and instituted by *legal* reasoning.

The activity of the judiciary is constituted and delimited by rules, principles, procedures and practices that, on the one hand, define its *positive* space of autonomy before other sovereign powers, and, on the other hand, *negatively* circumscribe its jurisdiction – i.e., its power to dictate the law – in the face of the spheres of legislature and administration.[6] Legal reasoning incorporates the powers and constraints of the judiciary, thereby granting the legitimacy (indeed, the legality) of its authoritative *discourse*.[7]

The court interprets facts in terms of legal norms (and vice-versa), thereby transfiguring them from *brute* into *institutional* facts.

Norms, procedures and practices regulate the conduct of the judge (who must be impartial and independent), as well as the way they learn the facts and arguments presented by the parties.[8]

Facts are considered legally *relevant* when they have a bearing on the judicial verdict, that is, to the extent the law is required to intervene in that particular conflict. The court interprets facts *in terms* of legal norms (and vice-versa)

[5] M. Hildebrandt, *Smart Technologies and the End(s) of Law* (Edward Elgar Publishing 2015), pp. 160-161; B. Latour, *An inquiry to the modes of existence — An anthropology of the moderns* (Catherine Porter tr, Harvard University Press 2013), pp. 54-61.

[6] For a perspective on external and internal sovereignty as constitutive of the system of countervailing powers and as a condition for protection of fundamental rights, see M. Hildebrandt, 'Extraterritorial jurisdiction to enforce in cyberspace? Bodin, Schmitt, Grotius in cyberspace', (2013) 63(2) *University of Toronto Law Journal* 196-224, at p. 204.

[7] This seems to correspond to what Hart calls *rules of adjudication*, a species within the category of secondary rules (together with the rules of recognition and change). To be sure, legal reasoning is also constrained by primary rules that courts are bound to evoke as a normative criterion to decide cases. However, in this section we are not referring to the primary rules that constitute the outcome of a case, but to the secondary norms that institute legal reasoning as a practice of a sovereign power. We prefer the term *norms* of adjudication to Hart's original concept of *rules* of adjudication to encompass both the *principles* and *rules* that institute and regulate the judiciary in its authoritative practice of applying law to concrete cases. On the concept of *rules of adjudication*, H.L.A. Hart, *The Concept of Law*, (Second Edition, Oxford University Press 1994), pp. 96-98. Associating legal reasoning with legitimacy, rather than to method, M. Hildebrandt, *Law for Computer Scientists and Other Folk*, (Oxford University Press, 2020), p. 28.

[8] By 'party' we are referring to all participants in a juridical dispute, that is, the defendant, the plaintiff and the prosecutor.

thereby operating their transfiguration from brute to *institutional facts*.[9] Facts may be *relevant* because they fit an interpretative *reading* of a legal norm.

Nevertheless, the particular epistemology of institutional facts includes rules concerning the production of evidence, which also constrain the relevance of facts to law.[10] Regardless their legal relevance in terms of fitting a legal norm, where facts are obtained through illegal means, or where the *production* of evidence offends a principle or a fundamental right (for example, the right to remain silent), such facts may not be considered in a court of law.

This shows that legal reasoning is not reducible to a semi-mechanical procedure of framing facts under the terms of the legal system. It is, rather, a value-laden reasoning which ensures not only substantive fitness, but also procedural fairness. Here, we can see that the *mode of veridiction* afforded by legal reasoning is designed to guarantee legal protection.

The epistemological validity of legal reasoning is grounded on a triptych of facts, norms and practices. By practices we mean ways of making sense of blends of facts and norms in the specific context of providing closure to legal disputes – for instance, by vouching proposals on how to justify judicial decisions or by introducing interpretative strategies.

Practices are subscribed by interpretative communities, who may be defined as models of thinking that incorporate a principle-based understanding of law [11] – i.e., a conception about the law, interpretation and forms of reasoning.

The epistemological validity of legal reasoning is grounded on a triptych of facts, norms and practices

[9] The distinction between brute and institutional facts may be found in G.E.M. Anscombe, 'On Brute Facts' (1958) 18(3) *Analysis* 69-72; J. Searle, *Speech Acts — An Essay in the Philosophy of Language* (Cambridge University Press 1969); M. Hildebrandt, 'Legal and technological normativity: more (and less) than twin sisters' (2008) 12(3) *Techné: Research in Philosophy and Technology* 169.

[10] M. Hildebrandt, *Law for Computer Scientists and Other Folk* (Oxford University Press 2020), pp. 28-30.

[11] Although the idea of interpretative communities took inspiration on the work of Stanley Fish, the definition in the text seems broader and more abstract that the one the author subscribes to, which goes like this: *Indeed, it is interpretive communities, rather than either the text or the reader, that produce meanings and are responsible for the emergence of formal features. Interpretive communities are made up of those who share interpretive strategies not for reading but for writing texts, for constituting their properties. In other words these strategies exist prior to the act of reading and therefore determine the shape of what is read rather than, as is usually assumed, the other way around. Even this formulation is not quite correct. The phrase "those who share interpretive strategies" suggests that individuals stand apart from the communities to which they now and then belong*. This definition may be found in the 'Introduction' to the work *Is There a Text in This Class? The Authority of Interpretive Communities* (Harvard University Press 1980), p. 14. A developed account on interpretative communities may also be found in the same work, in the essay entitled 'Interpreting the Variorum', particularly at pp. 167-173. The understanding of 'interpretative communities' in the body of the text is broader than the one professed by Fish, as we do not see any reason to restrict the notion of 'interpretative communities' only to those involved in writing texts. Interpretative communities seem recognisable not only as those who systematise ideas, but also as the jurists who apply these frameworks of thought and reinstate them or reinterpret them critically.

Whether aware of that or not, jurists belong to interpretative communities, as their understanding of the legal system is informed by (a background compound of) beliefs about law that constrain their interpretative practice.

A machine may detect patterns of reasoning through the application of mathematical formulae and statistical methodologies to a dataset composed with a relevant number of juridical decisions in text.

Nevertheless, the machine output would not translate the way in which jurists accept and are bound by rule-based practices that constrain their reasoning.[12] Indeed, when the court, and jurists in general, perform legal acts, they attribute them an illocutionary force afforded by an internal perspective of the law.[13]

This is not tantamount to saying that all the jurists agree about the outcome of a case or about the way legal norms should be read – as matter of fact, the same attorney may represent opposite claims and construct meaningful arguments in both cases. This only means that jurists are bound by an institutional framework itself *informed* by interpretative cultures recognisable as such.[14]

A judge, as a jurist themselves, is part of an interpretative community – therefore, their principle-based understanding of law will most likely inform the epistemology of the judicial decision.[15]

---

[12] From an external perspective of law, such as the one that seems to underlie the mode of existence of law as an instrument of social engineering, it probably won't be possible to distinguish between the Rule of Law from the rule *by* law. Such distinction may be found in the work of M. Hildebrandt, *Smart Technologies and the End(s) of Law* (Edward Elgar Publishing 2015), pp. 163-165; 'Radbruch's Rechtsstaat and 'Schmitt's Legal Order: Legalism, Legality, and the Institution of Law' in (2015) 2(1) *New Historical Jurisprudence & Historical Analysis of Law* 42-63, particularly pp. 56-62.

[13] In the sense given by H.L.A. Hart, *The Concept of Law* (Second Edition, Oxford University Press 1994), p. 3. Calling up for the distinction between rules and regularities, L. Wittgenstein, *Philosophical Investigations* (G.E.M. Anscombe tr, Macmillan Publishing 1953), §§ 629-632; C. Taylor, 'To follow a rule', *Philosophical Arguments* (Harvard University Press 1997), p. 179; M. Hildebrandt, 'The adaptive nature of text-driven law', (2021) 1(1) *Journal of Cross-disciplinary Research in Computational Law* 1-15 at pp. 8-9.

[14] Such recognition is not solipsistic, in the sense that an individual privately acknowledges an interpretative community as a recognisable one within the culture of a legal order. This acknowledgment is conventional and informs the beliefs of the interpreter, as the basis of her understanding of the legal system. This account is developed by Stanley Fish, 'Is there a text in this class?' in *Is There a Text in This Class? The Authority of Interpretive Communities* (Harvard University Press 1980), pp. 317-321.

[15] The finite nature of human beings *condemns* them to interpret the world from a standpoint (situation), which *informs* the amplitude of her *vision* – this is what Gadamer calls *horizon*, bringing the idea of a line which changes as we move to the phenomenon of understanding. The horizon will be as broad as our capacity to understand from our standpoint what is distant. Our beliefs inform our standpoint (present situation), therefore determining the breadth of our interpretative horizon. This means that interpretation is not an *unbiased* phenomenon. See H.-G. Gadamer, *Truth and Method* (Second Revised Edition, J. Weinsheimer and D.G. Mars trs, Continuum 2004), pp. 313-318. The same idea, with different *nuances*, namely that beliefs are supported by interpretative communities, can also be found in Stanley Fish, *Is There a Text in This Class? The Authority of Interpretive Communities* (Harvard University Press 1980), pp. 14-17.

The norms and procedures that constitute legal reasoning do not regulate the content of the decision itself. Yet, they grant a rule-based institutional epistemology that settles the language-game of the judicial discourse in the specific competence of *dictating the law* in a concrete case.[16]

Legal reasoning is the result of a discursive interplay between the judge, prosecutors and attorneys within the judicial environment

Legal reasoning is the result of a discursive interplay between the judge, prosecutors and attorneys within the judicial environment. Its epistemology is informed by a complex network of institutional facts, primary and secondary norms and interpretative practices.

As a fundamental aspect of both the epistemology and legitimacy of authoritative closure, legal reasoning emerges as a guarantee that a judicial decision stems from the legal system in its dimensions of form, substance and procedure.

3.6.4.1.2 Interpretation

In the previous section, we have approached constitutive aspects of legal reasoning – one of those being *interpretation,* to which we shall now zoom in to inquire what its truth-conditions are.

What are the interpretative rules followed by the judge when deciding concrete cases?

The purpose of this study is not to provide an extensive report on the different accounts on legal interpretation developed by legal scholarship along the history of law. However, it is possible to map the objectives and the criteria that are traditionally ascribed to authoritative interpretation.

In continental legal traditions, two different currents of thought ascribe fundamentally different purposes to interpretation.[17]

One of these doctrines considers that the aim of interpretation is to reproduce the authoritative will of the organ that enacted the legal norm (*mens legislatoris*) – therefore, it has been dubbed the *subjectivist* account.[18] This strand of thought implies a particular configuration of the system of countervailing powers,

---

[16] This seems close to J. Habermas, *Between Facts and Norms – Contributions to a Discourse Theory of Law and Democracy* (William Rehg tr, MIT Press 1996), p. 235.

[17] These two different currents are referred to by Kark Engisch, *Introdução ao Pensamento Jurídico*, Portuguese translation of the Einführung in das Juristiche Denken by J.B. Machado, *Lisboa: Fundação Calouste Gulbenkian* (2008) pp. 169-197; K. Larenz, *Metodologia da Ciência do Direito*, Portuguese translation of the *Methodenlehre der Rechtswissenschaft* by J. Lamego, Lisboa: Fundação Calouste Gulbenkian (2009) pp. 445-450; A. Castanheira Neves, 'Metodologia Jurídica – Problemas fundamentais (Reimpressão)', in *Stvdia Ivridica – 1 Boletim da Faculdade de Direito da Universidade de Coimbra* (2013) pp. 98-103.

[18] An extensive critique against the interpretative endeavour of attributing the meaning of a statute to its author's intentions is provided by R. Dworkin, *Law's Empire* (Harvard University Press 1986), pp. 317-337; 'Law as Interpretation' (1982) 9(1) *Critical Inquiry* 179-200 at pp. 197-199. Also criticising the subjectivist account, G. Radbruch, 'Legal Philosophy' in *The Legal Philosophies of Lask, Radbruch, and Dabin* (Kurt Wilk tr, Harvard University

where only legislature, as the embodied representative of the will of the *demos*, has the institutional legitimacy to ascribe meaning to legal norms. Following this trail of thought, the interpretative activity undertaken by the judge is only legitimate as a reverberation of the people's will, as expressed in legal *text*.

> The intention of the legislator of the past is manufactured with the tissue of today

The subjectivist account seems to overlook the necessarily contemporaneous nature of interpretation, which makes possible – as much as it *contaminates* – any interpretation of the past. The reader will not access the *intention* of the legislator as a psychological fact, but, rather, as an interpretative fact – i.e., as something informed by interpretative conventions. In other words, the *intention* of the legislator of the past is *manufactured* with the tissue of today.[19]

A different account abstracts the meaning of text from its author, arguing that legal norms can be attributed an objective meaning contained in the law (*mens legis*). The so-called *objectivist* doctrine acknowledges the a-changing[20] nature of meaning and, thus, both the legitimacy and the obligation of the judiciary to confer meaning to positive law by interpreting the situated *will* of the legal system rather than that of the author.

Although traditional in continental jurisdiction, this binary *division* between *subjectivist* and *objectivist* theories overlooks the complexity of the interpretative phenomenon. Which indeed lends itself to accommodate both doctrines.

The two accounts would be mutually exclusive only if they were understood as ascribing incompatible purposes to interpretation. But if we understand that the purpose of legal reasoning and interpretation is to provide *closure*, the interpretative paths (and the interpretative result) provided by subjectivist and objectivist theories do not necessarily exclude each other.

Press 1950) pp. 140-146. Claiming that *intention* is not a psychological fact, but an interpretative fact constrained by conventional norms, S. Fish, 'Working on the Chain Gang' in *Doing What Comes Naturally* (Duke University Press 1989), pp. 98-101.

[19] S. Fish, 'Working on the Chain Gang' in *Doing What Comes Naturally* (Duke University Press 1989), pp. 98-101. Besides the particular *architecture* of intention as an interpretative (rather than psychological) phenomenon, in interpreting the past we must be aware that our expectations concerning *meaning* inform the horizon of our own understanding. This means that interpretation is constrained by our fore-understanding of its object. Such *anticipation* of meaning is not subjective, but rather proceeds from a shared vision about the past. For further development, H.-G. Gadamer, *Truth and Method* (Second Revised Edition, J. Weinsheimer and D.G. Mars trs, Continuum 2004), pp. 278-284; 302-310.

[20] This expression was borrowed from Bob Dylan's lyrics "the times they are a-changin', from the album with the same name, released in 1964. By the expression we want to illustrate the idea conveyed by (our interpretation of) the lyrics, that is, the continuous redefinition of circumstances and thoughts about the world – which is inherent to the interpretation of text.

Authoritative interpretation must reflect the scheme of countervailing powers, which involves interpreting and iterating the democratic will *expressed* in text and the coherence of the legal system *inscribed* in the norm.[21] This understanding blurs the boundaries between objectivist and subjectivist accounts[22] and acknowledges interpretation as a comprehensive, iterative practice. The purpose of providing closure determines the scope of interpretation, but not its direction (as suggested by the doctrines exposed above).

Continental legal doctrine developed criteria to attain what it understood as being the purpose of interpretation – either the intent of the legislator, or the meaning of the law –, namely the grammatical, historical, systematic and teleological criteria.[23]

The grammatical element constitutes what is traditionally called the *letter* of the text, whereas the other methods propose interpretative roads *beyond* it to attain the *spirit* of the law. These interpretative criteria constitute a heritage of legal theory that still resonates today. Hereunder we will provide an overview of them as they are learnt by jurists.

---

[21] Savigny establishes two felicity conditions for interpretation: the interpreter must (i) attempt to reconstruct the intellectual trail of the legislator and (ii) acknowledge the historico-dogmatic whole of the legal system and perceive its relations with text. See F.K. von Savigny, *System of the Modern Roman Law* (William Holloway tr, J. Higginbotham 1857) §XXXIII 173-174 and *Traité de Droit Romain*, translated by M. Ch. Guenoux, *Paris: Libraire de Firmin Didot Frères* (1855) §XXXIII 208-209. The association of *expression* to subjectivist theories and of *inscription* to objectivist theories was inspired by work of R. Barthes, 'La mort de l' auteur' (1968) *5 Manteia* 61-67, p. 64. The article is translated in English language, under the title 'The death of the author', translated by S. Heath, *Image, music, text* (Fontana, London 1977), p. 146.

[22] As Gadamer puts it Understanding is to be thought of less as a subjective act than as a participating even of tradition, a process of transmission in which past and present are constantly mediated. See *Truth and Method* (Second Revised Edition, J. Weinsheimer and D.G. Mars trs, Continuum 2004) at p. 302.

[23] The classical source in this respect is the work of F.K. von Savigny, *System of the Modern Roman Law* (William Holloway tr, J. Higginbotham 1857) §XXXIII 171-173 and *Traité de Droit Romain*, translated by M. Ch. Guenoux, Paris: Libraire de Firmin Didot Frères (1855) §XXXIII 206-209. Savigny distinguished four elements for the interpretation of written laws: grammatical, logical, historical and systematic. The logical element concerned the discretisation of the thought in logical parts — the word *thought* points to the *sense*, as the intellectual import of the law, and not to the *intention* of the legislator. The French translation clarifies that the Author expressly avoided the word 'intention' — see note (a) at p. 206. Savigny considered that the objective of interpretation (*explication*) was the reconstruction the sense of the law, that is, its content. Therefore, everything that did not belong to the content of the law, regardless how associated with it, should remain out of the object of interpretation. This was the case of the *motive* (the purpose, the *telos*) of the law (*ratio legis*), which could mean either a rule from which others could be deduced and taken as a consequence of; or the effect the rule aimed at producing. For Savigny, these senses of the word *motive* were not necessarily opposed; indeed, we should admit that the legislator has had both in mind — thus, the difference is that the first meaning was more common in rules of the *ius commune* and the second in rules of the *ius singulare*. About the motive of the law, see § XXXIV of the same work — in the English translation pp. 174-178, in the French translation pp. 206-209.

The grammatical criterion sticks interpretation to a binding relation between a scheme of signs (text) and meaning, or a range of *fore*meanings.[24]

The historical criterion invites the interpreter to inquire the conditions that led to the adoption of a legislative solution, namely by analysing the *travaux preparatoires* that were in the origin of a legal norm and/or the original problems a specific legal solution proposed to answer to.

The systematic criterion implies considering the norm as part of a whole meaningful integrity, which may be a section, a statute or the constitution. The norm, as *a unit* (part) of the legal order, *expresses* or *inscribes the unity* of the (whole) legal order. The *location* of a norm within the written *map* of positive law provides what we could metaphorically call *meaningful coordinates* to grasp the unwritten territory of law.

By following the teleological criterion, the interpreter focuses on the purpose ascribed to a norm within the legal order.[25]

> The norm, as a unit (part) of the legal order, expresses or inscribes the unity of the (whole) legal order

The four criteria just described should be taken together as typical intellectual operations involved in attributing meaning to legal propositions and not as four different kinds of interpretation.[26]

Due to the inescapable incompleteness of *written* law in the face of infinite possible arrangements of fact, it can also be the case that no written norm, once interpreted, provides a proper regulative criterion that fits the case. In such cases, the court may summon a rule that has been evoked to regulate past cases found similar to the case at hand to *construct* the justification of *closure* (*analogia legis*). A kind of reversed analogy is offered by the *argumentum a contrario*, which consists of a negative reasoning in reading the norm that justifies the different treatment of the case at hand.

The traditional accounts and criteria provided above rely on the dichotomy *letter/spirit*. Such dichotomy overlooks the fact that the process of reading involves decoding text while interpreting the legal system. This

---

[24] The notion of *foremeaning* refers to an anticipatory projection of the meaning of text based on the expectations of the reader regarding its meaning. We found the idea of *foremeanings* in Gadamer's work, building on Heidegger. See *Truth and Method* at pp. 278-284; 302-310.

[25] In the interpretation of European Union Law, we can find a variant of the teleological interpretative element named *meta-teleological* interpretation. It refers to an interpretative approach which considers overarching goals and principles of the Treaties; whereas the teleological element is concerned with immediate purposes of a specific legal norm. Initially, the meta-teleological element was more associated to economic goals; later on, fundamental rights integrated meta-teleological interpretation which reflects the different perception on the content of European Community/European Union Law over time. The meta-teleological argument seems to combine the interpretation of principles and policies – which are not always unambiguously distinguishable. For further developments, see J. Gerards, "Judicial argumentation on fundamental rights — The EU Courts' challenge", in *European Legal Method — in a multi-level EU legal order*, Jurist- og Økonomforbundets Forlag (2012) 34-38.

[26] F.K. von Savigny, *System of the Modern Roman Law* §XXXIII 173-174 and *Traité de Droit Romain* §XXXIII 207-208.

means that *reading* is not a neutral activity that allows us to read *only* the letter without necessarily attaining an interpretative *spirit* (as supposed by the traditional *letter/spirit* binomial).

A familiar example of the non-neutral character of reading are the so-called *literal* meanings. They are no less a constructed product than other *less evident* meanings. The difference is that *literal meanings* conceal a pre-interpretative projection (a fore-meaning) under the cover of self-evidence.[27] Even where the attribution of meaning *sounds* so self-evident that it looks like it is given *literally* by text, interpretation does not cease to be a construction. *Literal meanings* just signal that an internalised interpretative procedure preceded a *reading* – not that interpretation is spurious or non-existent. Denying the existence of literal meanings is not, however, denying, but acknowledging, the existence of interpretative habits that underlie the appearance of self-evidence.[28]

Positing an authoritative interpretation is a performative act which always implies going *beyond* what legislation (text) can *do* – which is *constructing the norm of the case*, a written speech act that is necessarily different from the written speech act of enacting legislation.

3.6.4.2 Affordance

3.6.4.2.1 Legal reasoning

In this section we will inquire whether and the extent to which legal reasoning provides legal protection.

Legal reasoning *affords* a guarantee that the modes of veridiction of law apply to the judicial discourse.

Legal scholarship has proposed different models to ensure a *Droit*-based reasoning in court.[29] One of the proposed models is imported from formal logic and is based on the *modus ponens* argument, known as (legal)

[27] S. Fish, 'Still Wrong After all these Years', in *Doing What Comes Naturally* (Duke University Press 1989), pp. 358-359.

[28] L. Wittgenstein, *Philosophical Investigations* (G.E.M. Anscombe tr, Macmillan Publishing 1953) §§ 85; 198-199. The Author compares rules to *signposts* at §85, pointing out their common lack of interpretative self-sufficiency, which depends on the practice of *following* them.

[29] Some of these models are exposed by E.T. Feteris, *Fundamentals of Legal Argumentation — A Survey of Theories on the Justification of Judicial Decisions* (2nd edition, Dordrecht: Springer 2017).

syllogism. This account implies taking statutes as universals which must be instantiated by the facts of the case[30] so that a judicial decision or a claim can be legally justified.[31]

The classical structure of the legal syllogism is constituted by a major premise (a universal), minor premise (the facts that predicate a universal) and a conclusion that necessarily derives from the logical relation between the two premises.[32]

However, legal scholarship is not unanimous regarding the structure of the legal syllogism. One of the main divergencies concerns the content of the major premise. Some formulate it as the text of a statute (legal norm) or, where a matter is not regulated by a statute, as *an explicit or implicit major premise grounded in case law and doctrine*.[33] Others understand the major premise as the result of a constructive labour on text (interpretation).

Legal doctrine on syllogism distinguishes *internal justification* – the validity of the inference derived from the premises – from *external justification* – the validity of the premises.[34] Indeed, the interpretative nature of

---

[30] The idea that a particular case is an instance of a general norm is not undisputed. The case may be understood not as an instance of a general norm — which would still be logically problematic, as norm and case are not realities of the same kind to be in a general/particular logical relation — but, rather, as the reason why general norms exist, which is to provide closure to legal disputes. As Radbruch puts it, the interest of jurists is not so much the general statement that compose the norm, but *the summarization of many individual statements by way of an economy of thought*. See G. Radbruch, 'Legal Philosophy', p. 150. A similar idea may be found in H.L.A. Hart, 'The Ascription of Responsibility and Rights' in (1948-1949) 49 *Proceedings of the Aristotelian Society* 171-194. However, Hart has expressly repudiated such account in the preface of his later work, *Punishment and Responsibility — Essay in the Philosophy of Law* (2nd edition, Oxford University Press 2008), since he found its main contentions were not defeasible and that the critiques addressed to them were justifiable. The criticism we are referring to is the one Hart quotes to justify his departure from his initial position, namely by P.T. Geach, 'Ascriptivism', (1960) 69(2) *The Philosophical Review* 221-225 and G. Pitcher, 'Hart on Action and Responsibility' (1960) 69(2) *The Philosophical Review* 226-235. Some corrective shields could have dismissed the above-referred criticism to Hart's account, namely (i) replacing the opposition between descriptive and ascriptive by that between descriptive and normative; and (ii) instead of referring to the defeasibility of legal concepts, what in fact is at stake is the defeasibility of legal rules, as suggested by F. Atria, *On Law and Legal Reasoning* (Hart Publishing 2001), pp. 138-139.

[31] N. MacCormick, *Rhetoric and the Rule of Law – A Theory of Legal Reasoning* (New York: Oxford University Press 2005), p. 80.

[32] In the text, we only mention the simplest form of the legal syllogism doctrine, but not all the Authors formulate the legal syllogism in the same way, nor they attribute the premises or the conclusion the same kind of content. A different formulation of the legal syllogism may be found in H. Kelsen, *Essays in legal and moral philosophy* (D. Reidel Publishing Company 1973), p. 245. Differently from MacCormick, Kelsen presents the major premise and the conclusion as statements about the validity of a legal norm (not a norm). The validity of the court's decision (individual norm) is presupposed as a premise, not logically inferred.

[33] N. MacCormick, *Rhetoric and the Rule of Law — A Theory of Legal Reasoning*, p. 46. The formulation of the major premise as a part of statute may be found at p. 36.

[34] J. Wróblewski, 'Legal Syllogism and Rationality of Judicial Decision' (1974) 5(1-2) *Rechtstheorie* 33-46, at p. 39; R. Alexy, *Teoría de la Argumentación Jurídica — La teoría del discurso racional como teoria de la fundamentación jurídica*, (original title Theorie der Juristischen Argumentation — Die Theorie des rationalen Diskurses als Theorie der juristischen Begründung (1978) (M. Atienza and I. Espejo trs, Lima: Palestra 2007) especially pp. 306-391.

law, itself afforded by the ductility of scripted natural language, relies on rhetorical and persuasive arguments more than it relies in logical connectors.[35] This is tantamount to saying that the sense and the reference of legal syllogism is determined by non-deductive arguments.[36]

Some claim that the conclusion deductively entailed by the premises is not itself the decision of a case; it is, rather, a material element that pinpoints what the court may justifiably decide.[37] In short, what the legal syllogism thesis is committed to is at ensuring a framework in which interpretative arguments make sense as legal arguments.[38] Hence, once the interpretative process is concluded, the decision may be formalised as a syllogism.

Other strands of legal scholarship, such as the one professed by Ronald Dworkin, consider that judicial discourse is legally grounded where it reflects the substantive integrity of the legal system.

Coherence is obtained through what Dworkin calls c*onstructive interpretation*, that is, through the best possible arrangement of legal principles, rules and practices to rule the case at hand.[39] Justification *translates* a dimension of *fit* committed to the integrity of the legal system.[40]

The working definition understands legal syllogism as a *product* of constructive interpretation, where both major and the minor premises are an interpretative result. The major premise is not composed by the text of a statute (as such), nor the minor premise corresponds to a simple transposition of the facts as alleged by the parties. Both the major and minor premises are interpretatively developed, by iterating facts, norms and practices against each other until a meaningful product of such iteration is obtained.[41]

---

[35] N. MacCormick, *Rhetoric and the Rule of Law — A Theory of Legal Reasoning*, pp. 42-43. The author indicates five problems that may compromise syllogistic premisses based on non-deductive reasoning: (i) problems of proof; (ii) problems of qualification: (iii) problems of evaluation; (iv) problems of interpretation; and (v) problems of relevancy. Also stating that legal reasoning is a matter of argumentation rather than logic, M. Hildebrandt, *Law for Computer Scientists and Other Folk* (Oxford University Press 2020), p. 30.

[36] In MacCormick's expression, the real reasons of the decision. See *Rhetoric and the Rule of Law — A Theory of Legal Reasoning*, p. 42.

[37] MacCormick, *Rhetoric and the Rule of Law — A Theory of Legal Reasoning*, p. 55.

[38] MacCormick, *Rhetoric and the Rule of Law — A Theory of Legal Reasoning*, p. 43.

[39] About constructive interpretation, R. Dworkin, *Law's Empire* (Harvard University Press 1986), especially at pp. 65-68.

[40] R. Dworkin, *Law's Empire* (Harvard University Press 1986) pp. vii; 254-258.

[41] This idea seems to correspond to what J. Rawls, *Theory of Justice* (Revised edition, Belknap Press 1999), pp. 15-19, called *reflective equilibrium*. Rawls writes *It is an equilibrium because at last our principles and judgments coincide; and* it is reflective since we know to what principles our judgments conform and the premises of their derivation *(p. 18 (our highlights)). The idea of* reflectivity *seems to refer to the deductive derivation of judgments from principles (what the scholarship on syllogism calls* internal justification*). The idea of* equilibrium *seems to have in mind a sort of constructive interpretation (what the scholarship on syllogism calls* external justification*). This is clearer when Rawls adds* I do not claim for the principles of justice proposed that they are necessary truths or derivable from such truths. **A conception of justice cannot be deduced from self-evident premises or conditions on principles**; instead, its justification is a matter of the mutual support of many considerations, of everything fitting together into one coherent view* (p. 19 (our highlights)).

The combination of legal syllogism and constructive interpretation intends to ensure that the facts predicated by the minor premise are *interpreted as ruled* by an interpretative construction (involving facts, norms and practices) of the legal system.

Valid legal reasoning affords a particular kind of treatment that protects citizens from unfair judicial action

The constitutional equilibrium between legislature, administration and adjudication is reflected on the proceedings in court as much as in the written judicial justification for closure. Legal reasoning ensures that the judicial verdict is a legitimate *product* of the legal system.

By guaranteeing that the judicial discourse is imbued with the modes of veridiction of law, legal reasoning affords a particular kind of treatment that protects citizens from a judicial discourse that does not reflect the protection afforded by law (i.e., the fairness of the judicial decision). This second point will be discussed in the section concerning legal protection by design.

3.6.4.2.2 Interpretation

Let us go back to the example mentioned in the first section of this contribution.

The sign board with the message *no vehicles in the park* is the exteriorisation of a legal norm enacted by the legislature, which was enforced by the police officer in their role as an agent of the administration. To contest the interpretation enforced by the administration, the citizen must resort to the court, the competent body to provide closure through an authoritative *(re)reading* of the norm against the legal system, after hearing the arguments of administration and those presented by the citizen.

The case triggers the need to interpret the norm that forbids the circulation vehicles in the park. The court must, then, respond to the following question: is a scooter considered a vehicle for the purposes of the prohibition?

This must not be understood as if legal interpretation was reducible to a semantic operation of decoding law. The authoritative attribution of meaning involves multiple iterations which are not exclusively semantic, but logical, axiological, systematic and teleological.

What is seemingly a mere semantic operation of interpreting the concept of *vehicle* is rather a compound of diverse variables, such as: (i) the purposes ascribed to the prohibition (which can be ensuring safety, or quietness in the park); (ii) the systematic insertion of that norm within the legal system; (iii) the possible consequences of such and such interpretation; (iv) similar regulated cases; (v) interpretative principles, such as the one that forbids the application of prohibitions by analogy, among others. Each of these variables offers a different light on the concept of vehicle.

The court's (and the police officer's) reading of the norm is the result of weighing different variables, each of which induces a particular interpretative route.

The authoritative act of reading by the court is informed by the purpose of providing closure to a juridical dispute. Here, it is important to clarify the relation between interpretation and application. Although we may

intellectually differentiate *interpretation* and *application* as two different operations, they are indistinguishable in the process of reading.[42]

Similarly, legal reasoning and interpretation are mutually constitutive practices that we can only separate by rationalising them as intellectual operations, as we have done along this contribution. We did that as a way to reveal their different outlines and the *expectations* each of them grants, however, affirming their unified legal phenomenology.

If we depict legal reasoning and interpretation as intellectual operations, we can say that *interpretation* is the process of attributing meaning to the word *vehicle* having in mind the facts of the case and the sources of law; whereas *legal reasoning* is intellectual trail that connects the meaning of *vehicle* with a source of law that grounds the decision of the case.

The distance afforded by text forces jurists into a *situated reading*, informed by a shared form of life within an interpretative community

However, what seems clear when we describe legal reasoning and interpretation (as well as interpretation and application) as intellectual operations becomes intertwined and blurred when they are understood as performative (authoritative) practices. This means that when the court puts term to a juridical conflict by grounding its decision on a source of law, legal reasoning and interpretation are unified, rather that separate, practices.

The distance afforded by text forces jurists into a situated reading, informed by a shared *form of life* within an interpretative community. The existence of interpretative communities must, therefore, be considered as an affordance of text, having a fundamental role in defining referential practice points that are constitutive of a specific kind of reasoning and interpretation as a legal one.[43] The existence of interpretative communities does not mean absence of disagreement between lawyers, but, rather, a common acknowledgement of the terms of such disagreement.

Along with legal education (itself informed by them), interpretative communities afford jurists to *learn* living-patterns (not simple regularities, but a-changing rule-based regularities) through which they make sense of the legal order as a coherent whole.

Judicial interpretation is infused with the structural constraints determined by judges' (who are themselves jurists) allegiance with an interpretative community.[44] Interpretative communities have the elasticity to acknowledge the contestable nature of interpretation and yet afford referential points to sustain an interpretative rhetoric, either from the court or from the parties.

The interpretative practices followed either by the parties or by the court must be recognisable as such – again by interpretative communities – to be considered as decisions, claims or defences within the legal language game.

---

[42] H.-G. Gadamer, *Truth and Method*, pp. 318-322.

[43] S. Fish, 'Still Wrong After all these Years' in *Doing What Comes Naturally* (Duke University Press 1989), p. 360.

[44] S. Fish, 'Working on the Chain Gang' in *Doing What Comes Naturally* (Duke University Press 1989), p. 98.

By affording referential practice points that allow making sense of the legal system, interpretation affords legal protection in a double sense. One, it establishes a language game that constrains authoritative reasoning and interpretation, thereby preventing their fall into arbitrariness. Two, it settles the language game that equips the citizen to contest an administrative decision (or a judicial one, through appeal) under the terms of law's mode of veridiction.

3.6.4.3 Legal Protection by Design

3.6.4.3.1 Legal reasoning

The role of legal reasoning for legal protection may be drawn in diverse ways, according to the theoretical understanding of the legitimacy of law and philosophical accounts about the process of rule-following and its rapport with language.

For the time being, we propose a look into the affinity between *legal reasoning* and *legal protection by design* concretised in the justification of judicial decisions. The concept of *legal protection by design* triggers us to do so from two different *loci*. The first looks into legal reasoning through the lens of the system of countervailing instituted by the Rule of Law. The second *topoi* inquires the extent to which legal reasoning, as a condition of legitimacy of a judicial decision, affords contestation.

The justification of judicial decisions is one of the most eloquent expressions of the checks and balances system. On the one hand, the judge is obliged to shelter their decisions in a source of law. On the other hand, legislature constrains the conduct of the judge through the establishment of principles and rules of procedure in court. This shows that a judge is as much a meaning *attributor* as is subject to law in their exercise of such authoritative power.

Legal reasoning strives to guarantee that the individual norm of the case is grounded on a source of law and that its substantiation is offered to the legal community observing a particular form of discourse.

But not only that.

> Legal norms, principles and procedures generate an especial kind of certainty, not about the outcome, but about a particular kind of treatment

Legal reasoning ensures fairness both during the procedure in court and in the intellectual trail that informs judicial decision-making. This is patent in the constraining effect procedural norms have in the scope of legal reasoning, such as those concerning forms of obtaining evidence; limitation periods; the adversarial nature of procedure, among others. Moreover, as already stated, legal reasoning is infused with the deontological rules that regulate the behaviour of the judge, which determine its independence and impartiality in judging any claim.

The norms, principles and procedures that guarantee a fair trial generate a especial kind of certainty, not about the outcome, but about a particular kind of treatment. This outwork of the system of countervailing powers demonstrates how legal reasoning is a fundamental element in a system designed to provide legal protection.

The second *topoi* proposes to inquire whether legal reasoning affords contestability. As stated before, the court's verdict must be a recognisable artefact of the legal system, that is, it must fit a recognisable interpretation of positive law. To be sure, judicial decisions must be clear concerning court's reasoning on facts and legal norms – even if its effects only apply to the involved legal subjects, the decision addresses the community as whole.

There is, however, a caveat concerning the intelligibility – and altogether, the contestability – of judicial decisions for a lay citizen. The intricacies of the justificatory discourse *operate* in the particular language of the jurists. Hence, the modes of veridiction of law rest on an interplay between facts, norms and practices that might be opaque to a lay citizen.

This is why attorneys are usually required to assist legal subjects, as they *inform* the community of jurists technically equipped understand the decision as a contestable product and *voice* their constituents' claims. Representation by a lawyer is a guarantee of due process, mentioned both in Articles 47 and 48 (2) of the Charter of Fundamental Rights of the European Union.

An effective legal protection demands effective advice, defence and representation in order to allow legal subjects to present their petitions to court and to interpret the reasoning of judicial decisions.

3.6.4.3.2 Interpretation

In this section, we will develop the idea stated above that interpretation affords legal protection. We have already demonstrated that judicial interpretation is an exteriorisation of a particular system of powers. Now, we will attempt to focus on the extent to which interpretation affords contestability, as a core element of the concept of legal protection by design.

Legal interpretation requires *decoding* text, both as a system of signs and as the inscription of a principle/rule-based system. Both the decoding movements happen simultaneously.

Hence, no reading is neutral.

To be sure, the ICI of text does not, by itself, determinate an interpretative outcome; it, however, *imposes* the need for interpretation.[45] This is not saying that text by itself (as if *unread*) *enforces* a particular meaning is, rather, dependent on the interpretative horizons of the reader.

No reading is neutral

The process of *reading* (legal) text is contingent on conceptions and practices that *produce* the interpretative result. Even words whose meaning seems so *literal* that it sounds *indisputable* (and thus incontestable) are *artefacts* of a prior interpretative process. The *fugaciousness* of textual meaning is a core aspect of legal protection, as it affords contestation even where an interpretation is perceived as pre-determined and, therefore, indisputable.

[45] M. Hildebrandt, *Law for Computer Scientists and Other Folk* (Oxford University Press 2020), p. 6.

The particular epistemology of law may be illustrated by way of example. In the Portuguese Criminal Code, the crime of breaching of home or disturbance of private life is aggravated when committed at night or in a deserted place, or in other circumstances listed in the legal norm.[46]

What if the crime is committed during twilight or at dawn?[47]

Then, the judge must *decide*[48] (not deduce)[49] what makes the circumstances of the case fit (count as) the legal concept of *night*. In other words, the court must determine whether the facts of the case are legally relevant in light of the norm that aggravates the crime. Such relevance is not mechanically determined by the fact that the crime was committed during the night period in a naturalistic sense.

Judicial interpretation is infused by the modes of veridiction of law, therefore its felicity conditions are not to be performed as a verification of naturalistic conditions – which would, in any case, imply an interpretative choice concerning what counts as *the night period*.

---

[46] The norm in reference is Article 190 (Breach of home or disturbance of private life) of the Portuguese Criminal Code, which we reproduce.

[47] This example is inspired in A. Castanheira Neves, 'Metodologia Jurídica — Problemas fundamentais (Reimpressão)', *Stvdia Ivridica — 1 Boletim da Faculdade de Direito da Universidade de Coimbra* (2013), p. 140.

[48] Even where deductive reasoning is applied, the construction of the premises is an interpretative decision of the judge. To use the terms currently used by scholarship on syllogism, the *external justification* is the result of an interpretative decision; only the internal justification is deductive. It is only possible to *deduce* when the terms of such deduction are defined – which does not happen deductively. The particular formulation of syllogistic reasoning is contingent on the beliefs of the interpreter concerning the construction of the premises (authors are not unanimous about their composition) and the configuration of syllogism itself. In the example given in the text, the legal relevance of *night* implies an interpretative decision about whether *night* shall count as an aggravating circumstance. That the facts of the case fit the normative concept of night is an interpretative decision, not a deduction.

[49] The act of will that underlies authoritative interpretation must not be confounded with what MacCormick classifies as a replication of what he called *the Kelsenian objection*, which, in a simplistic formulation, states that a judicial decision, as an act of will, cannot be deduced from pre-established premisses — i.e., the will of the legislator declared in the general norm does not imply the act of will that constitutes the rule of the case. MacCormick does not deny the objection, only its scope. He states that the fact that a decision is not deductively attained does not undermine the possibility that conclusions relevant to its justification may be derived from pre-established premisses. In other words, the conclusion derived from the premisses would not be the decision itself but would be relevant to justify it. The Author evokes the Rule of Law and the principles of representative democracy, according to which the court is bound by pre-established rules, to justify this account. Regarding the classificatory problem, MacCormick considers Kelsen's objection only from the perspective that ascriptions, as acts of will, cannot be deduced. However, Kelsen's account seems to imply more than that — it is not just that a *will* cannot be deduced, but, rather, that an individual will may not be logically inferred from a general will. About the so-called Kelsenian objection, N. MacCormick, *Rhetoric and the Rule of Law – A Theory of Legal Reasoning*, pp. *55-57*; see pp. 70-72 for the classificatory problem. Kelsen's account may be found in H. Kelsen, *Essays in legal and moral philosophy* (D. Reidel Publishing Company 1973), pp. 241-244.

The legal concept of *night* is informed by social and cultural ideas and appraised according to the role of the norm within the legal system.[50] A greater vulnerability is associated to the night period, either because it is dark or because it is considered to be a resting period, where people are less vigilant, and the offender takes advantage of such circumstances.[51] The idea of exposure and vulnerability is also suggested by other of the aggravating circumstances (a deserted place).

Probably the aggravating circumstance would be weighted differently in a case where a house is breached during the night when nobody is there compared to a case where an elderly couple is inside sleeping. This does not mean that the word *night* is to be converted into a vulnerability assessment in such a way that if someone breached a property during *daytime* whenever an elderly couple was inside sleeping, the aggravating circumstance *night* would serve as a justification to aggravate the crime.[52] It just means that the concept of *night* is not naturalistic, but *legal* – that is, informed by (an interpretation of) the values of the legal order.

The example above should not be read as the only possible (admissible) interpretation of the norm – the multiplicity of facts that could possibly be regulated by it would not authorise such conclusion. Nor would the interpretation suggested above be representative of all the interpretative communities – textualist currents would likely dismiss it as *plainly wrong*.

What the example meant to demonstrate is that the meaning of legal norms is not offered *as-is by text*, but is obtained *through it,* in light of the values of the legal system *as read* by the interpreter.

The interpretative nature of the *act of reading* legal norms opens alleys for contestability, even in cases where a decision is based on the most *apparently* literal interpretation. By nature, the act of reading offers itself as a *contestable* (because *context-able*) artefact.

---

[50] G. Radbruch, 'Legal Philosophy' in *The Legal Philosophies of Lask, Radbruch, and Dabin* (Kurt Wilk tr, Harvard University Press 1950), pp. 148-149. Radbruch distinguished *legally relevant concepts*, used in setting forth states of fact, from *constructive and systematic concepts*, by means of which the normative content of a legal norm is grasped (for instance, legal rights, legal relations and legal institutions). According to Radbruch, when legally relevant concepts (the former category), such as night, are adopted by law, they endure a teleological transformation. We would prefer to qualify such conceptual transformation (indeed, translation) either as axiological (in the sense that it reflects values of the legal system that are not restricted to its teleology) or as interpretative (which is a less loaded concept and allows for interpretative flexibility).

[51] This form of reasoning in law is analogous to the one Paul Ricœur attributes to metaphors and symbols as a surplus of signification, as opposed to the literal signification in 'Metaphor and Symbol', *Interpretation Theory: Discourse and the Surplus of Meaning* (Texas University Press 1976), p. 55.

[52] In criminal law such reasoning would be particularly problematic, as several jurisdictions forbid the analogic application of criminal rules — which *mutatis mutandis* applies to aggravating circumstances.

The meaning of legal norms is not offered *as-is by text*, but is obtained *through it*, in light of the values of the legal system *as read* by the interpreter

What is desirable on the side of contestability, may raise a concern: if the judge gets to infuse interpretation with the beliefs they attribute to the legal system, *closure* is arbitrary and left to their whims.

The risk of subjectivism has haunted legal doctrine and has been both avoided and embraced. However, this *leitmotiv* overlooks the judge either *as part of an interpretative community* and *as a role*.

Interpretative communities share beliefs about interpretation and their recognition as such makes them part of the interpretative culture of a legal order.[53] If a decision is framed according to a repository of beliefs shared by a legal community, arbitrariness becomes a chimera – or, else, an arbitrary decision would not qualify as recognisable judicial decision in virtue of its alienness to any known interpretative community.

Furthermore, the institutional role of the *judge* demands them to justify their decisions in a way that makes of them a legitimate product of the legal system.

Contestability is afforded by the unsettling nature of meaning and by the institutionalisation of the authoritative powers of *writing* and *reading*. The institutional role of the judge and its natural allegiance to an interpretative community hamper arbitrary decisions, thereby affording legal protection by design.

1. Anyone who, without consent, enters another person's dwelling or remains there after being ordered to leave is punished with a prison sentence of up to one year or a fine of up to 240 days.
2. The same penalty applies to anyone who, with the intention of disturbing another person's private life, peace and quiet, calls their home or cell phone.
3. If the crime provided for in paragraph 1 is committed at night or in a deserted place; by means of violence or threat of violence, with the use of a weapon or by means of breaking into; escalation or false key; or by three or more, the agent is punished with a prison sentence of up to three years or a fine.

[53] Stating that interpretative communities cut-off the tension between objectivity and subjectivity, S. Fish, *Is There a Text in This Class? The Authority of Interpretive Communities* (Harvard University Press 1980), p. 14.

3.6.5 The texture of text-driven normativity

The same way a game does not exist until it is played, the information and communication infrastructure (ICI) of text depends on *reading* (interpretation) to survive – or, better, to come to life. In its turn, legal interpretation requires a system of signs created by an *author* to be *read* (interpreted).

The fact that law exists, for its major part, in text, it requires an institutionalised writer and reader to come to life.

The lifecycle of law as we know it is an iteration of dialogue and text. Before enactment, the content of legislation is discussed (dialogue) among legislature, until it acquires its final form – i.e., until it is enacted and becomes the written *speech act* of enacting legal norms. It is this text that the judge will *read* against an institutionalised dialogue that happens in court until the *speech act* of closure (the verdict) is fixed in text. Once the norm of the case is fixed in writing, it assumes a different role on the legal order – it acquires interpretative force as a different *source of law*.[1]

The system of countervailing powers operates in text, which *affords* the distribution of the interpretative roles institutionalised by the Rule of Law.

The legislature occupies the role of the author who regulates the future by means of democratic *discussion*. After the proper procedure, a final text is enacted.

> Law requires an institutionalised writer and reader to come to life

Judicial closure follows a parallel interplay of dialogue and text, as it must interpret the sources of law against the facts of the case and, after an adversarial *dialogue*, formalise the decision in *text*. The propositional content of the written speech act (judicial decision) is the *tailor-made* norm of the case.

In both cases, text ends a dialogical exchange and becomes a source of law to which meaning must be attributed to.

Text affords a generative distantiation.[2]

---

[1] Criticising speech act theory for reducing its scope to the performativity of oral speech acts, thereby missing the different affordances of written speech acts, B. Fraenkel, *Actes écrits, actes oraux : la performativité à l'épreuve de l'écriture in Performativité : Relectures et usages d'une notion frontière — Dossier : Performativité : relectures et usages d'une notion frontière* (2006) 69-93 §§ 23-24; 55-77, available at https://journals.openedition.org/edc/369accessed 2021.06.20; M. Hildebrandt, 'Text-Driven Jurisdiction in Cyberspace', *Keynote Hart Workshop* (April 2021), pp. 6-9.

[2] Ricœur calls it *productive distantiation*, 'Speaking and Writing' in *Interpretation Theory: Discourse and the Surplus of Meaning* (Texas University Press 1976), p. 43; M. Hildebrandt, *Smart Technologies and the End(s) of Law* (Edward Elgar Publishing 2015) pp. 48; 176-177; 'Text-Driven Jurisdiction in Cyberspace', *Keynote Hart Workshop*, pp. 3; 8.

A case triggers a metamorphosis of legal text as a source of law, from legislation to case-law. The decision of the case is then released from its situated references, where, freed from the contingencies of dialogue, its text may be appropriated by an undetermined number of readers.[3]

The hermeneutic circle of law involves a complex network of *circularities* between dialogue and text; legislature and adjudication; legislation and case-law; and that between norm, case and practice. These circularities characterise written legal performatives, whose *textification* allows them to partake in the interpretative interplay of law by the affordances of the ICI of text.[4]

It is this permanent reinstitution of the legal system before a unique set of facts that affords an evergreen social contract – not in the sense of an inherited foundational and immutable pact, but in the sense of continuous adjustments to new contexts and new parties.[5]

Modern positive law exists (for the most part) in text,[6] thereby instituting a complex network of written (and also oral) speech acts.

The constant reinstitution of the legal system before a unique set of facts affords an evergreen social contract

The elasticity of text to support diverse readings affords legal protection. This is particularly salient if we think that the parties and the judge ascribe different purposes to their argumentation in court – and such difference makes a difference in the interpretative trail. The parties are committed to their best interest and, therefore, to a pre-defined outcome expressed in their claims – interpretation is functionalised to that outcome.

Interpretation plays a crucial role in voicing the claims and defences of legal subjects. Whether *right* or *wrong* in their desired outcome, text/interpretation afford their right to be *heard* and eventually to get a decision in their favour. This is core to legal protection.

Quite differently from the parties, the judge is committed to an interpretative response that reflects the legal system as whole. From the perspective of the court, a judicial dispute is not simply a conflict of facts with a particular legal rule, but with law in itself – therefore, it is the totality of the *Droit* which is called to *rule*.

The advent of the printing press allowed for the reproduction and dissemination of the same text and the consequent increase of the possible number of readers – and, thereby, of readings. According to some, the new interactions brought by the ICI of text and the printing press afforded the development of information

[3] P. Ricœur, 'Speaking and Writing' in *Interpretation Theory: Discourse and the Surplus of Meaning* (Texas University Press 1976), pp. 29-30; 'The Model of the Text: Meaningful Action Considered as Text' (1973) 5(1) *New Literary History* 91-117, at pp. 93-97.

[4] M. Hildebrandt, 'Text-Driven Jurisdiction in Cyberspace', pp. 6-11.

[5] M. Hildebrandt, 'Text-Driven Jurisdiction in Cyberspace', p. 10.

[6] Stating that modern types of democracy and the Rule of Law are affordances of both cartography and printing press, M. Hildebrandt, 'Text-Driven Jurisdiction in Cyberspace', *Keynote Hart Workshop*, pp. 5; 8; 15.

systematisation and abstract thinking.[7] The affordances of abstract and systematised thinking are at the root of the manufacture of historical artefacts – such as the Rule of Law or sovereignty. Which is to say that an entire heritage of historical artefacts that shaped our philosophical, legal, political, social and moral thought was afforded (not caused) by text and printing press.[8]

If we are correct, then there is no reason to take for granted that historical artefacts afforded by text will be preserved when a different ICI is operating.[9] In the next section, we will briefly raise some concerns on the use of data-driven normativity (DDN) and code-driven normativity (CDN) in the practices legal reasoning and interpretation.

3.6.6 Anticipating legal protection under data- and code-driven normativity

In text-driven normativity (TDN), legal reasoning and interpretation are purposeful practices whose object is constituted by an interplay of facts, practices and sources of law. The expected outcome of such interplay is a judicial decision. The human mediation that necessarily comes with interpretation engages human experience within the transfiguration of brute into institutional facts (more precisely, into legally relevant facts).[10]

This scenario is altered in data-driven technologies. Facts are reduced to data points processed according to a mathematical function which establishes relations between them with the objective of making predictions.

1. To what extent does the compiling of human experience into data points fundamentally change legal reasoning and interpretation?
2. How will the legal system maintain the self-generative nature ensured by TDN where human experience is datified?
3. How will the system of countervailing powers look like in the moment of deciding the relevant data points to be the taken as the input of data-driven interpretation? In what terms can statistics be absorbed by the mode of veridiction of law?
4. Can the vices (*préjuges*) of human reasoning and interpretation be amended by the virtues of a mathematical formula – or can it also be the other way around?

---

[7] Underlining that printing press afforded systematic and abstract thought, M. Hildebrandt, *Smart Technologies and the End(s) of Law* (Edward Elgar Publishing 2015), pp. 49-50; 'Extraterritorial jurisdiction to enforce in cyberspace? Bodin, Schmitt, Grotius in cyberspace' (2013) 63(2) *University of Toronto Law Journal* 196-224, at pp. 206; 208; and 'Text-Driven Jurisdiction in Cyberspace', *Keynote Hart Workshop*, p. 3.

[8] Modern state also abstracted the sovereign office from its holder, M. Hildebrandt, 'Extraterritorial jurisdiction to enforce in cyberspace? Bodin, Schmitt, Grotius in cyberspace', (2013) 63(2) *University of Toronto Law Journal* 196-224, at p. 208; 'Text-Driven Jurisdiction in Cyberspace', *Keynote Hart Workshop*, p. 4.

[9] M. Hildebrandt, *Smart Technologies and the End(s) of Law* (Edward Elgar Publishing 2015), p. 176; 'Text-Driven Jurisdiction in Cyberspace', *Keynote Hart Workshop*, p. 3.

[10] C. Jabloner, 'How the Facts Enter Into the Law', in N. Bersier Ladavac, C. Bezemek and F. Schauer (eds.), *The Normative Force of the Factual — Legal Philosophy Between Is and Ought*, Law and Philosophy Library, Vol. 130 (Springer International Publishing 2019), pp. 97-110.

5. Will the *mathematisation* (and the use of statistics) bring more *certainty* to legal reasoning and interpretation? Are there different kinds of certainty? If so, what are the trade-offs of different kinds of certainty within the system of countervailing powers?

CDN involves the creation of rules in programming language that self-execute when some conditions are met. Private companies develop and deploy digital architectures that are designed to serve the interests decided by the programmer or by the company who employs them.

The *digislator* (digital legislator) is not a democratic representative, nor they are *addressable* by the legal community as a legitimate author or reader of the social contract. The performative force of code in shaping human behaviour is a-legal[11] as it *happens* out of the framework instituted by the Rule of Law.

1. Is the current system of checks and balances translatable into code or in any way embeddable in the pipeline of automated enactment/enforcement? What will be the relation between enactment and publication of rules? How will the concepts of publication, validity and efficacy articulate in code-driven law?
2. To what extent does the synchronic enactment and execution of legal norms make legal reasoning and interpretation obsolete practices?
3. Can the principles of legal reasoning, such as the adversarial nature of procedure, be embedded in code-driven law? If so, in what terms?
4. Do automated regulation and automated compliance demand different articulations of the system of countervailing powers? How would that articulation look like?
5. Both legal interpretation and code require expertise to be understandable – and, thus, contestable. In what terms could CDN engage with contestability?
6. If the source code is not published before deployment, individuals will only realise that rules are being applied in the moment of execution. Does CDN claim for new arrangements on the system of countervailing powers or none of such adjustments would ever make the application of code (as law) legitimate?

[11] L. Diver, 'Digisprudence: the design of legitimate code' (2021) 13(2) *Law, Innovation & Technology* 325, p. 5.

4 Conclusions: Legal Protection's Dependencies on Text-driven Normativity

Mireille Hildebrandt

4.1 Introduction: legal protection in a constitutional democracy

This Research Study is part of the output of the COHUBICOL research project that is focused on fundamental research into computational 'law'. The project asks whether and under what conditions 'legal techs' could and/or should **qualify as 'law'** (i.e. understood as legitimately generating legal effect) and the subsequent question of how it may **directly or indirectly impact law** (i.e. directly or indirectly affect legal effect). The answer to these questions should serve the aim of the project, that is to investigate how we can make sure that human beings who are subject to a law that is built on 'legal techs', actually 'count' as human agents.

For humans to 'count as' a human being we need to foster (1) the checks and balances of the **Rule of Law** that requires a government *to treat each and every citizen with equal respect and concern* and (2) a **democratic rule** based on one person one vote, thus allowing for a majority rule. However, in the context of constitutional democracies, i.e. democracies that respect the Rule of Law, the ruling majority must ensure *equal respect and concern for those who are not part of that majority*. This is where populism as well as authoritarian rule miss the mark, overruling individual agency once a majority has been formed or a ruler installed. The meaning of 'counting as' thus integrates both the quantitative meaning of counting (one person one vote) and its qualitative meaning (qualifying as). Note that in this study we do not use the concept of 'liberal democracy' as this has too many connotations that link democracy to capitalism as intrinsically conducive to liberalism. Instead, we use the term constitutional democracy to emphasise that a viable democracy depends on the checks and balances of the Rule of Law, where the latter concept is less about 'rules' (legalism) than about law as the binding normative framework that restricts the decision space of the government (legality). The concepts of 'liberal democracy' and 'Rule of Law' derive from the Anglo-American discourse, whereas 'constitutional democracy' and *Rechtsstaat* or *Etat de Droit* are more akin to continental framings; it would be great if the discourse of political theory, Rule of Law and democracy would take into account more of continental philosophy instead of requiring whoever writes in English to first explain how their analyses can be expressed in the vernacular of analytical philosophy and either utilitarianism or deontological moral philosophy.

The meaning of 'counting as' integrates both the quantitative meaning of counting (one person one vote) and its qualitative meaning (qualifying as)

The project thus takes a specific normative position on the Rule of Law, highlighting its core as **the antinomian interplay between legal certainty, justice and instrumentality (Radbruch)**, while asserting that legal certainty entails both the contestability of legal norms and their final authoritative interpretation by an independent court (Waldron). Roger Brownsword has convincingly argued that a law that cannot be disobeyed is not law but discipline, management or administration. We add that norms that cannot be contested in a court of law are not legal norms but discipline, management or administration, and should therefore be open to contestation *as such* under the Rule of Law. This normative position implies that **law is**

an argumentative practice rather than the application of either logic or statistics, thus raising a number of flags around attempts to ground the law on technologies that necessarily reduce legal decision-making to the application of logic and/or statistics.

The goal of this 'Research Study on Text-Driven Law' is to probe the added value of the three framing concepts that are key to the COHUBICOL project with regard to modern positive law, understood as text-driven law. These three concepts are (1) the 'mode of existence' of law, (2) 'affordances', i.e. law as an 'affordance' and the 'affordances' of law and (3) 'legal protection by design'.

> Law is an argumentative practice rather than the application of either logic or statistics

4.2 Chapter 1: the text-driven nature of modern positive law

Before engaging with the triple framing concepts, **chapter 1** prepares the ground by explaining how the information and communication infrastructure (ICI) of the printing press afforded the key principles of the Rule of Law, notably the **contestability** of legal decision-making combined with the need for **closure** by an independent court. Chapter 1 recounts how the rise of the ICI of the printing press turned **the need for interpretation** into the **hallmark of modern positive law**. This was due to the distance in time and space that is created by printed text: distance between an author (e.g. a legislature) and its audience (e.g. those who share jurisdiction), between an author and their text (legislation), due to the spatial reach of printed text compared to both handwritten and oral speech, thus also creating distance between the author and the meaning of their text (in concrete legal decisions), due to the loss of control over how the reader will interpret the text, e.g. because of the death of the author (after elections a new author, i.e. a new legislature, takes office). It was this need for interpretation that triggered both the need for closure and the inevitable ability to contest, inviting a balancing act that steers free from both rigid rule application (legalism) and arbitrary rule (*Einzelfallgerechtigkeit*). The point is that this delicate balancing act cannot be taken for granted; it depends on the institutionalisation of countervailing powers. The proliferation of the ICI of the printing press did not 'cause' or 'logically imply' the rise of the Rule of Law, it merely **afforded** the Rule of Law as an institutionalised practice.

4.3 Chapter 2: the framing concepts

This chapter grounds the framing concepts of the project (mode of existence, affordance and legal protection by design) in the works of the project's author. It brings together a series of seminal quotes from her book *Smart Technologies and the End(s) of Law* and from the project proposal 'Counting as a human being in the era of computational law' that directs the research. Below, I reiterate the working definitions of the framing concepts, as related in chapter 2, clarifying both differences and similarities with other ways of using them.

4.3.1 The modes of existence (MoE) of modern positive law

The concept of a MoE was introduced in the Project as a way to highlight that modern positive law exists in a specific way, compared to other types of legal traditions (e.g. medieval, Roman, religious) and compared to other societal domains (notably morality and politics, but also economics or religion). Core to the idea of

MoE is that speaking and writing can be ways of acting, bringing about performative effects while creating so-called institutional facts. Modern positive law is the prime example of such acts, exemplified in the notion of **legal effect, that is neither caused nor logically inferred** but constituted by speech acts such as: enacting legislation, concluding a contract, deciding a judgment.

> Current law's mode of existence is an affordance of the technology of text, which in turn also afforded the institutional checks and balances of the Rule of Law

The concept was inspired by Latour's usage, which was in turn inspired by Souriau and similarly inspired by Stengers' concept of an ecology of practices. In *Smart Technologies and the End(s) of Law*, however, Hildebrandt developed her own conception of the way that law-as-we-know it exists, highlighting the relationship between, on the one hand, modern positive law and the Rule of Law and, on the other hand, the information and communication infrastructure (ICI) of the printing press. A key difference may be that she argues that **current law's mode of existence is an affordance of the technology of text, which in turn also afforded the institutional checks and balances of the Rule of Law**. The Project is based on the assumption that we cannot presume that once law becomes grounded in another ICI its affordances in terms of legal protection will remain the same, more notably with regard to the legal protection offered under the Rule of Law. The Project aims to investigate how this will affect law's current mode of existence, more notably **the nature of legal effect and related institutional foundations**.

The use of this concept should thus enable us to become aware of the fact that modern positive law's mode of existence cannot be taken for granted once the text-driven ICI is integrated with code- and/or data-driven ICIs, while allowing us to acknowledge that this will transform the mode of existence of law-as-we-know-it, requiring deliberate efforts to secure the kind of contestation and protection that is key to the Rule of Law.

4.3.2 Affordance of and affordance for

The concept of affordance, as used in this Project, builds on **Gibson's original concept** that was part of his ecological psychology, which traced **the relational nature** of what are often considered 'properties' of a specific environment:

> The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, but the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment.

The concept has been further developed by Norman in the domain of design, initially focused on how to design technological artefacts in such a way that the intended affordances of a product are more easily perceived as such by the relevant user. From the perspective of the Project we are however also interested in what **hidden affordances** can be manipulated by the provider or deployer of a system to influence end-users, e.g. without their conscious awareness.

Whereas Gibson was mostly focused on the affordances of the material environment, we focus on both the material environment (for instance specific technologies) and the institutional environment (created and

sustained by performative speech acts that may be mediated by specific technological infrastructures). We understand the **affordances of the material & institutional environment of human beings** as what the material & institutional environment offers us as **embodied human agents.** Note that this does not imply a mutually exclusive conceptualisation of 'material' and 'institutional'; institutional facts are afforded by the 'matter' of our own embodiment (our voice, brains, gestures, mobility) and the affordances of our material environment are determined by institutional facts (created on the cusp of language, human agency and real-world navigation). With the term affordance we thus refer to the relation between a material & institutional environment on the one hand and the human agents that find themselves in that environment while also shaping it on the other hand. Instead of defining law as a property of human society the concept of an affordance foregrounds the ***inbetween*** and **mutual dependencies** of human agents and their environments.

Law as an 'affordance of': this understanding of affordance allows us to pay keen attention to the affordances of a specific information and communication infrastructure (ICI) **for the constitution of the law**, acknowledging that **law-as-we-know-it is an affordance of a text-driven ICI.**

Law as an 'affordance for': this, in turn, allows us to understand legal protection as an affordance of modern positive law that forms the material & institutional environment of natural persons (human beings), acknowledging that law-as-we-know-it has specific affordances for human beings.

Modern positive law then, should be understood as a system of **legal written speech acts** and their **resulting institutional facts**, built on the ICI of text. This way of seeing the relationship between the material and the institutional environment of law and the relationship between specific material & institutional environments and human agents, **will allow us to compare the affordances of a text-driven ICI to those of code- or data-driven ICIs, particularly as to legal protection.**

4.3.3 Legal protection by design (LPbD) in the era of text-driven normativity

LPbD is a term coined by Hildebrandt to refer to ***the articulation of legal protection into the prevailing information and communication infrastructure (ICIs)***, more notably the legal protection provided by fundamental rights and the institutional checks and balances (countervailing powers) of the Rule of Law. LPbD is not equivalent with Lawrence Lessig's 'Code as Law', which frames the normative force of computing code in terms of 'architecture', next to social, economic and legal norms. This Project is based on the understanding that social, economic and legal norms overlap in various ways, thus also highlighting that the extent to which computer code determines human behaviour depends on the affordances of the relevant computing systems.

LPbD should **not** be confused with **techno-regulation**, which refers to both legal and non-legal, and – in case of the latter – both deliberate and unintended regulatory effects of technologies. Based on the understanding that 'technology is neither good nor bad, but never neutral', technologies have normative affordances that may be part of deliberate design decisions, aimed to have specific intended effects, though such normative affordances may also be unintended 'side-effects'.

Legal Protection by Design must be distinguished from 'ethics by design' or 'values by design'

LPbD must also be **distinguished from 'ethics by design' or 'values by design'**, which is based on the acknowledgement that any design will have normative and possibly moral implications, inevitably embedding certain values, whether or not the designer is aware of this. LPbD aims to incorporate the ***specific values of fundamental rights and the checks and balances of the Rule of Law*** into prevailing ICIs, grounding the design in **democratic participation and legislation** while ensuring **contestability** as a core and actionable value of legal protection. LPbD is not about embedding a designer's ethical preferences into a product or infrastructure but about protection against intended and unintended disruption of legal effect due to the use of legal technologies.

LPbD should also **not** be confused with **'legal by design'**, which refers to a specific type of techno-regulation, whereby legal norms are translated into code or into the design of computing systems such that compliance become automated or semi-automated. Think of self-executing code as in smart contracts or smart regulations, or data-driven techniques for prediction of judgments deployed to make legal decisions. Legal by design aims to attribute legal effect to the operations of technologies, thus automating the attribution of legal effect which runs counter to the protection of the Rule of Law.

The concept of LPbD will allow us to investigate to what extent, and if so how, legal protection as an affordance of a text-driven ICI can be re-articulated in code- and/or data-driven ICIs.

Together, these three framing concepts highlight the relational and ecological nature of the law, literally foregrounding the 'texture' of modern positive law.

4.4 Chapter 3: the conceptual scaffolding of modern positive law

This chapter is based on the initial phase of the project, which consisted of **an in-depth investigation of a set of foundational legal concepts in the light of the framing concepts**. The chapter introduces a set of fundamental concepts that are constitutive for law and the Rule of Law, while **situating them in relation to each other**. After this, the chapter **explains each concept in terms of the framing concepts**, thus exploring the added value of 'mode of existence', 'affordance' and 'legal protection by design' as a way to provide a better understanding of the law.

4.4.1 Legal norm

Based on the discussion of foundational legal concepts in chapter 3, the concept of a 'legal norm' can be situated **in relation to the other foundational legal concepts** as follows:

> **Legal norms determine a specific legal effect when certain conditions are fulfilled.** Their validity, and thus their legal effect, depends on the relevant **jurisdiction** (not on individual preferences, moral agreement or economic power). **Legal effect** can, for instance, be the transfer of property, the obligation to pay a price, the legal power to punish a person or the legal power to impose the payment of compensation; a legal effect can also be 'that a certain action is lawful'. **Subjective rights** are created by legal norms that attribute such rights. The delivery of a good based on a valid contract of sale creates

a **subjective right** with regard to that good, more precisely a property right. This is based, in turn, on legislation or case law that attributes the **legal effect** of 'having a property **right**' to the performance of a contract. Legal effect is a performative effect in that it does what it says. To have that specific performative effect, legal norms must be derived from **the sources of law**: international treaties, the constitution, legislation, case law, doctrine, custom and fundamental principles of law. Legal norms must be distinguished from physical laws and from moral obligations or threats. Legal norms can in principle be violated (physical laws cannot) and the obligation to comply with them does not depend on the individual moral agreement of those subject to law or on the arbitrary wishes of a government official. Some legal norms prescribe or prohibit specific actions (primary or regulative norms), other legal norms decide who have the **legal power** to enact, change or adjudicate the interpretation of legal norms (secondary or constitutive norms). Deciding the meaning of a legal norm in a concrete case requires **legal reasoning and legal interpretation;** rules and principles do not interpret themselves. Though legal norms take the form of a rule their interpretation depends on binding fundamental legal principles such as 'good faith' or 'proportionality'. Legal norms address **legal subjects,** that is both natural persons (human beings) and entities that have been given legal personhood (e.g. corporations). Legal norms may attribute **subjective rights** to legal subjects, based on the relevant **positive law**. In a constitutional democracy, legal norms both constitute and limit the legal powers of the state, thus bringing the government under the **Rule of Law**.

The materiality of text affords abstract thought and an external memory that calls for reiterant interpretation, thus affording both contestation and closure

Based on the discussion of **the framing concepts** in chapter 2, the concept of a 'legal norm' can be understood as follows:

The mode of existence of legal norms in the era of modern positive law is constituted by the legal effect they generate and this legal effect is a performative effect that is **afforded** by spoken and written speech acts. The materiality of that mode of existence can be found in (1) the embodiment of natural language and (2) the embedding of written law in the technologies of text. The materiality of the human body **affords** the development of complex human languages and speech acts that create an institutional environment. The materiality of text **affords** abstract thought and an external memory that calls for reiterant interpretation, thus **affording** both contestation and closure. The performative effect of spoken and written speech acts defines the legal protection that is offered by modern positive law. One could say that in this sense, the kind of legal protection offered by law-as-we-know-it is contingent upon its articulation in spoken and written language. The design of these speech acts determines their performative effect and in that sense the enactment of legal norms by the legislature and the courts can be seen as a matter of **legal protection by design**.

4.4.2 Rule of Law and positive law

Based on the discussion of foundational legal concepts in chapter 3, the concept of the 'Rule of Law' can be situated **in relation to the other foundational legal concepts** as follows:

> The Rule of Law (*état de droit*, *Rechtsstaat*) refers to the institutionalisation of checks and balances within the state, making sure that countervailing legal powers keep each other in check, thus preventing the arbitrary exercise of public power over legal subjects, notably over 'natural persons'.

The Rule of Law thus limits the **legal power** to attribute of **legal effect** in a way that offers practical and effective legal protection to **legal subjects**, especially natural persons, by attributing them **subjective rights**. The difference between the Rule of Law and a rule *by* law refers to the difference between, on the one hand, a law that is both an instrument of public policy (creating **legal effect**) and an instrument of protection (simultaneously limiting the attribution of **legal effect**) and, on the other hand, a law that is nothing but an instrument to achieve public policy goals as defined by the government. The Rule of Law implies legality, meaning that state powers can only be exercised within the bandwidth of **legal powers** attributed for specified and legitimate purposes, taking into account human **rights** while respecting independent judicial review. Rule by law may refer to legalism, where state powers can be and must be exercised in accordance with the will of the legislator and/or to legal formalism, where the state has discretionary powers to achieve their objectives as long as these powers have been attributed in accordance with specified procedures.

Even though the Rule of Law may apply to different **jurisdictions**, each **jurisdiction** will articulate the checks and balances in different ways. The Rule of Law depends on the interpretation of the **sources of law** in a specific jurisdiction, more precisely, the Rule of Law stipulates that such **interpretation** must be done by an independent judiciary. The **sources of law** are defined in the context of specific **jurisdictions**, both national and international, thus linking the Rule of Law to democratic law-making. The **sources of law** define **positive law** within a specific **jurisdiction**, thus embedding the Rule of Law in concrete legal orders. For positive law to qualify as articulating the Rule of Law, however, the **interpretation** of **legal norms** derived from the **sources of law** must be in the hands of an independent judiciary. **Legal reasoning**, then, involves the anticipation of how a court will **interpret** a **legal norm** in the context of **positive law** in the relevant **jurisdiction**.

In Anglo-American legal philosophy Rule of Law is often equated with conditions such as accessibility, clarity, generality, non-contradiction, non-retroactive application, feasibility and foreseeability, coupled with the notion of an independent judiciary (Fuller). A difference is often made between a thin and a thick version, depending on whether conditions are more formal or more substantive. In the latter case more attention is given to human rights protection, including social and cultural rights. Others, however, pay keen attention to rights of contestation against the state (Dicey), and to procedural conditions that enable contestation and argumentation as core to the Rule of Law (Waldron), and to formal characteristics that can constrain what a legitimate legal rule can possibly be (Wintgens).

In continental European legal theory, the *Rechtsstaat* or *Etat de Droit* can similarly be seen in a more formal or substantive way, with keen attention to the extent to which the **legal powers** of the state are limited, including the question of whether states have positive obligations to ensure respect for human rights in both the public and the private sphere. The Rule of Law thus entails the protection of **subjective rights** that cannot be overruled without due process of law.

In the context of COHUBICOL we take a substantive and procedural perspective on the **Rule of Law**, integrating a formal perspective in a way that embraces legality while rejecting both legalism and arbitrary rule, incorporating 'practical and effective' protection of human **rights** and access to an independent court

to ensure the contestability of actions or decisions in the public or private sphere that may violate **rights** or obligations.

Based on the discussion of foundational legal concepts in chapter 3, the concept of 'positive law' can be situated **in relation to the other foundational legal concepts** as follows:

> Positive law is the entirety of legal norms, derived from the sources of law that are in force in a specific jurisdiction, at a specific point in time. As explained under legal norms, this includes both primary rules (regulative, i.e. legal norms that directly regulate) and secondary rules (constitutive, i.e. legal norms that define how primary rules can be made) Being in force refers to (1) the binding character of positive law, (2) the state's actual power to enforce the law and (3) a decision by a legislator, public administration or court whereby they enact legal norms in the sense of issuing, interpreting and/or applying them. All three points relate to the nature of legal effect as opposed to causal effect or logical inference. Legal certainty depends on the 'positivity' of the law. Positive law is informed by the moral principles that constitute its implied philosophy and simultaneously informs the moral practices of those subject to its normativity. Positive law differs from morality in (1) that it does not depend on the moral inclinations of an individual decision-maker, and (2) that it is in principle enforceable against those under its jurisdiction. Positive law differs from politics and policy in that it does not determine the purposes of a polity but determines what legal effect is attributed based on the fulfilment of what legal conditions. The Rule of Law implies that political decision-making depends on the attribution of a legal power to do so, meaning that the legal effect of primary legal norms depends on the legal effect of secondary legal norms.

Positive law assumes the existence of a sovereign state and simultaneously constitutes and regulates that same sovereign state. The **Rule of Law** as well as the protection of human **rights** depend on positive law. Positive law is often opposed to 'natural law', which may refer to divine law (medieval period) or the law of reason (enlightenment period), both of which claim universal application and an objective truth-value; positive law is human-made (it is 'posited'), depending on the social contract that defines a particular **jurisdiction**. Though some authors restrict the meaning of 'positive law' to legislation, we use the concept to refer to all **legal norms**, whether enacted by a legislature or a court, whether written or unwritten, as long as they derive from the **sources of law**.

Positive law should not be confused with 'legal positivism', which refers to a specific conception about the nature of law, its making and its validity. Recognizing the importance of positive law does not imply 'legal positivism'.

Based on the discussion of **the framing concepts** in chapter 2, the concepts of 'Rule of Law' and 'positive law' can be understood as follows:

> The **mode of existence** of the Rule of Law and positive law implies that they are co-constitutive. In the words of Gori 'on the one hand, the "law which rules" is positive law; on the other, the constellation of values and normative standards enshrined by the doctrine of the Rule of Law

By thinking in terms of affordances rather than causation or logical inference, we can avoid technological determinism, while nevertheless demonstrating what is made possible by a law that depends on the ICI of the proliferating printed text

> informs the understanding of what is required for positive law to "rule".' The normative force of both positive law and the Rule of Law hinge on the text-driven normativity that informs written and unwritten law (taking note that unwritten law only makes sense in the context of written law). The **affordances** of natural language and the infrastructure of the printing press allowed for the rise of both positive law and the Rule of Law, because of the inherent multi-interpretability of language and the ensuing contestability of printed text. By thinking in terms of **affordances** rather than causation or logical inference, we can avoid technological determinism, while nevertheless demonstrating what is made possible by a law that depends on the ICI of the proliferating printed text. This also asserts that the kind of legal protection that is **afforded** by positive law under the Rule of Law, is in turn an affordance of a text-driven ICI. One could say that this text-driven ICI, informing both positive law and the Rule of Law, offers a kind of **legal protection by design**, even if this does not necessarily entail a deliberate attempt on the side of those who invented the printing press.

4.4.3 Legal effect, sources of law and jurisdiction

Based on the discussion of foundational legal concepts in chapter 3, the concept of 'legal effect' can be situated **in relation to the other foundational legal concepts** as follows:

> Legal effect is the consequence of a legally relevant fact, where that consequence is attributed by positive law and consists of a change in the legal status of a legal subject, including a change in their legal powers, their subjective rights or obligations.

The attribution of legal effect can entail e.g. the attribution of a **right** or **legal power**, the voiding of an obligation, or the qualification of some state or behaviour as either lawful or unlawful. The attribution of legal effect is brought about by a **legal norm** that consists of a set of legal conditions (*Tatbestand*) that attribute the legal effect if the conditions are fulfilled. The attribution is neither caused nor logically inferred; it is performative in the sense of speech act theory. For instance, fulfilling the conditions that constitute a criminal offence has the legal effect of being punishable, not of being punished. This clarifies that the effect is performative and not causal; being punishable is an institutional fact whereas being punished would be a brute fact.

The set of legal conditions (*Tatbestand*) that result in a legal effect are specified in **positive law**, more precisely in a **source of law**: treaties, legislation, case law, customary law, or fundamental principles of law. As **positive law** depends on the relevant **jurisdiction**, legal effect in turn differs per **jurisdiction**, even if some legal effects may apply in many **jurisdictions.** The decision on legal effect is first made by the legislature that may enact new sources of law (legislation), but under the **Rule of Law** the last word is with an independent court, based on explicit **legal reasoning** that supports the court's **interpretation** of the relevant **legal norm**.

Based on the discussion of foundational legal concepts in chapter 3, the concept of 'sources of law' can be situated **in relation to the other foundational legal concepts** as follows:

> The sources of law refer to the set of written and unwritten resources from which binding legal norms are 'drawn'; the sources do not contain information about the law, they constitute the law as they define what counts as law.

The sources of law are usually limitatively summed up as: international treaties, legislation, case law and doctrine (written sources) and fundamental principles of law and customary law (unwritten sources). All these written and unwritten sources present the binding **legal norms** that define what **legal effect** is to be attributed depending on what conditions, within a specific **jurisdiction**. A constitution can be written (legislation) or unwritten (customary law); either way, it constitutes the **legal powers** of the state (as a legal person) and the fundamental **rights** of its citizens (as legal subjects). The content of the sources of law will differ per **jurisdiction** and will depend on **positive law**.

Doctrine contributes to the **interpretation** of binding **legal norms**, though it is not binding in itself, the same goes for recitals in treaties, opinions of advocats general (advisors) of highest courts and other formal advisory bodies (e.g. the European Data Protection Board). The binding force of fundamental legal principles does not depend on whether or not and how they have been codified in written sources; they are tied up with the core tenets of the **Rule of Law** and the moral and institutional grounding of the law. Customary law binds due to *usus* (actual adherence) and *opinio necessitatis* (a shared sense of obligation).

To select and apply a relevant **legal norm** implies an act of **interpretation**; the act of selection and application cannot be reduced to a logical sequence though it must be justifiable in the form of a syllogism; the need to justify the choice and the interpretation of a legal norm restricts the decisional space of public administration and the courts, thus bringing them under the **Rule of Law**. **Interpretation** cannot be arbitrary, legal doctrine distinguishes grammatical, systematic, historical and teleological interpretation, i.e. taking into account the ordinary meaning of the relevant terms, the place of the norm within the relevant legal source, the legislature's intent as derived from official documents, and the aims of the relevant legal source. This implies that interpretation requires legal reasoning, which it also affords. Though courts have discretion in selecting and combining these methods of **interpretation**, the exercise of such discretion is bounded by the demands of legal certainty, justice and the purposiveness of the law.

Based on the discussion of foundational legal concepts in chapter 3, the concept of 'jurisdiction' can be situated **in relation to the other foundational legal concepts** as follows:

> Jurisdiction refers to the legal powers of a legal order and to the scope of such power. This means that jurisdiction defines what legal norms constitute positive law based on the sources of law of the relevant jurisdiction. Jurisdiction thus also determines the attribution of subjective rights and the distribution of legal powers.

Jurisdiction may refer to: a sovereign's **legal powers** to legislate, adjudicate and enforce; the territory or domain over which a sovereign those **legal powers**; the competence of a specific court to adjudicate, which is defined by a combination of material and procedural conditions. Since the Peace of Westphalia (1648) jurisdiction depends on sovereignty, which in turn is defined by territorial jurisdiction. This circular interdependence relates to two sides of the same coin: internal sovereignty provides for national jurisdiction and vice-versa while external sovereignty defines international jurisdiction and vice-versa. Internal sovereignty cannot exist without external sovereignty and vice-versa.

Jurisdiction can in principle be based on territory (**modern positive law** is aligned with territorial jurisdiction); personal status (birth, kinship, membership of a religion); subject matter (criminal jurisdiction, private law jurisdiction) or on the effect of an action that gives rise to a legal claim (e.g. in tort law). In all cases,

jurisdiction is about what institution decides the attribution of **legal effect** within its domain (whether based on territory, personal status or subject matter) as well as which **legal subjects** are subject to its binding force. It thus also decides what **subjective rights** are attributed under what conditions.

In the current world order, we can distinguish national, international and supranational jurisdictions. As to national jurisdiction we can distinguish: internal jurisdiction, that is, the competence to legislate, adjudicate, and enforce the law within the state; extraterritorial jurisdiction, that is, the competence of one state to legislate, adjudicate, or enforce its law in relation to **legal subjects**, actions or effects in the territory of another state. International jurisdiction depends on the **sources of international law**. The relationship between potentially overlapping jurisdictions is itself subject to the jurisdiction of a national court (e.g. international private law) or an international court (notably in international public law). The question who gets to decide on jurisdiction is often called: Kompetenz-Kompetenz; it refers to the question of what entity has jurisdiction to decide jurisdiction. This question is key for decisions on the applicability and **interpretation** of **legal norms**, especially where different bodies claim jurisdiction concerning the same territory, persons or subject matter. **Legal reasoning** depends on the ability to decide what **sources of law** apply, what **legal norms** are part of **positive law**, thus enabling the **interpretation** of a **legal norm** in the context of the whole of the applicable **legal norms**.

The mode of existence of legal effect, the sources of law and jurisdiction is a 'matter' of institutional facts, that is – they are the performative effect of a dynamic network of written and spoken speech acts

Based on the discussion of **the framing concepts** in chapter 2, the concepts of 'legal effect', 'sources of law' and 'jurisdiction' can be understood as follows:

> **The mode of existence** of legal effect, the sources of law and jurisdiction is a 'matter' of institutional facts, that is – they are the performative effect of a dynamic network of written and spoken speech acts. The networked character of both natural language and its usage, on the cusp of intra- and extra linguistic reference, accords with the fact that legal norms and legal effect must always be situated in the whole of the sources of law that are applicable within a specific jurisdiction. In that sense language and language use – seen as acts of embodied human agents in a physical and institutional environment – **afford** jurisdiction and the sources of law as 'enlanguaged **affordances**'. As Van den Hoven writes in chapter 3: 'This notion [enlanguaged affordances] puts emphasis on the ways in which the affordances of the human ecological niche are interwoven with practices of speaking and writing. Speech and writing allow us to engage with affordances across long timescales and allow us to think in abstract and institutional terms about the world. (…) The very nature of the web of meaning, as Taylor puts it, is to be "present as a whole in any one of its parts. To speak is to touch a bit of the web, and this is to make the whole resonate".' This is also what makes legal protection possible, ensuring that legal norms are not decided in splendid isolation but in the context of the sources of law that inform the relevant jurisdiction. As Van den Hoven clarifies, this entails that **legal protection by design** is not a matter of rejecting technologies other than those of the word, 'rather it can be understood as a manifesto for the preservation of thoughtfulness in law'. Even if the legal protection as-we-know-it was not the intended result of a text-driven ICI, that ICI nevertheless has a certain design that is conducive to both the contestability and the

> closure that are key to jurisdiction, the sources of law and legal effect. In that sense **legal protection by design** is core to text-driven law, notably to its networked and systemic dimensions, as visible in the notions of 'sources of law' and 'jurisdiction'.

4.4.4 Legal subject, subjective rights and legal powers

Based on the discussion of foundational legal concepts in chapter 3, the concept of 'legal subject' can be situated **in relation to the other foundational legal concepts** as follows:

> **A legal subject is an entity capable of acting in law, of having subjective rights and legal obligations.** Most **jurisdictions** attribute legal subjectivity to two types of entities: to all human beings (called natural persons) and to any other entity qualified as such (called legal persons) by the legislature or the courts. This clarifies that it is **positive law** that decides whether and under what conditions an entity is a legal subject. Corporations, ships, trees or AI systems may qualify as legal persons, depending on what legislatures or courts within a specific jurisdiction decide. As **positive law** depends on the **sources of law** that apply in a specific **jurisdiction**, the attribution of legal subjectivity may differ amongst jurisdictions.

In current constitutional democracies, natural persons have full legal subjectivity (in all domains of law), whereas legal persons have restricted legal subjectivity, as defined by the relevant positive law. In most jurisdictions the following entities are given legal personhood: the state and public bodies such as cities or regions, international organisations, corporations (various types) and associations, foundations or charities. Legal persons will necessarily require representation by one or more natural persons to act in law, to exercise their standing in court, to exercise their rights and to fulfil their legal obligations. Legal personhood is restricted to the remit defined by the legislator or the courts, which means they are not necessarily entitled to human **rights**. The extent to which legal persons can be held liable in private, public or criminal law and/or exercise specific rights is not only a matter of legislative attribution but may also be a matter of **interpretation**. The European Court of Human Rights (ECtHR) has e.g. decided that corporations may have a restricted **right** to privacy. This allows the national courts of the Council of Europe to develop **legal reasoning** that fits with the **interpretation** of the ECtHR.

Being a legal subject enables an entity to generate **legal effect**, whether intended (as in the case of a contract) or unintended (as in the case of a tort). The ability to generate intended **legal effects** provides legal subjects with **legal powers**, e.g. the power to conclude a valid contract. The attribution of legal subjectivity implies the attribution of **subjective rights**; in the case of natural persons, those rights include human or fundamental rights, e.g. privacy, non-discrimination, fair trial or the right to an effective remedy to invoke one's rights.

Legal subjects may have limited capacity, as defined by **positive law**, e.g. minors may not enter contracts, unless authorised by their parents, minors may not be liable under tort law, though their parents may be liable instead, corporations may be able to conclude contracts and be held liable under private law, but may not be punishable under criminal law, and natural persons may be placed under guardianship in case of mental incapacity, in which case they cannot perform juridical acts (i.e. acts with intended **legal effect**). Whether and under what conditions legal subjects have limited capacity depends on positive law and thus on the relevant **jurisdiction**.

A legal subject is not the same thing as either the human being or the non-human entity that is granted legal subjectivity. Instead, it is akin to an avatar that enables them to play specific role(s) in law. This means that being a legal person does not imply being a moral person, that is a being capable of acting morally.

Based on the discussion of foundational legal concepts in chapter 3, the concept of 'subjective rights' can be situated **in relation to the other foundational legal concepts** as follows:

> A subjective right is always relational (between *legal subjects*, with regard to one or more legal objects, such as a property or an obligation). It can be one or more of the following: a claim – attributed by positive law – of a legal subject, that one or more other legal subjects act or do not act in a certain way in relation to that legal subject, and/or a liberty – attributed by positive law – of a legal subject, that they are free to act in a certain way in relation to one or more other legal subjects, and/or a legal power – attributed by positive law – of a legal subject, that they are free to use in relation to one or more other legal subjects. A subjective right is the legal effect of a specific legal norm, derived from the relevant sources of law, within a specific jurisdiction. Legal subjects have the legal power to create or transfer subjective rights, for instance the conclusion of a contract of sale implies the legal power to transfer a property right.

In private law two generic types of rights are distinguished. First, the rights *ad personam*, or relative rights, that can only be invoked against specified other legal subjects. Such rights include those resulting from a contract, a tort action or unjustified enrichment. Second, the rights *erga omnes*, or absolute rights, that can be invoked against any and all legal subjects. Such rights include ownership, *usufruct*, right of way and intellectual property rights.

A claim right assumes an obligation or a duty on the side of one or more other **legal subjects**, e.g. a legal obligation to pay compensation (in the case of a tort or breach of contract), or a duty of non-interference (in the case of ownership).

A liberty right assumes that other **legal subjects** do not have a claim that one does or does not act in a specific way, e.g. in the case of ownership other legal subjects have no claim that the owner uses their property in a certain way, which demonstrates that property rights are bundles of claim and liberty rights.

A legal power assumes that one or more other **legal subjects** may be required to act or not act in a specific way, e.g. the legal power to transfer property implies that all legal subjects must now respect the right to property of the new owner and refrain from interference (in case of a property right), or the legal power of the government to impose taxes that implies that citizens must pay taxes (in case of the right of the state to unilaterally impose a duty to pay taxes).

The conceptual structure of modern positive law and the Rule of Law hinges on the institutional fact that only specified entities can act in law

In legal theory further distinctions are made, such as immunities, permissions and competences. The precise meaning of claims, liberties, powers, immunities, permissions and competences often differs between private and public law (and between national and international law), due to the different ways that the requirements of the **Rule of Law** play out (in private law the freedom and autonomy of private parties is foregrounded, whereas in public law the legality principle restricts the legal powers of the government). The applicable legal norms that constitute and limit subjective rights differ depending on **jurisdiction**, as it is **positive law** that decides on the attribution of subjective rights and positive law depends on jurisdiction.

Based on the discussion of foundational legal concepts in chapter 3, the concept of 'legal powers' can be situated **in relation to the other foundational legal concepts** as follows:

> A legal power refers to the ability of a legal subject to achieve an intended legal effect, thus imposing legal obligations on other legal subjects to act or refrain from acting in a specific way. Legal powers are attributed to legal subjects by positive law, they are both constituted and limited by positive law. One can have a legal power to attribute legal powers. The legal norms that attribute legal powers may differ per jurisdiction and per domain of law, depending on the relevant sources of law.

The written or unwritten Constitution of a state attributes **legal powers** to legislate, administrate and adjudicate, thus calling them into existence (the constitution 'constitutes' these powers), and qualifying them (the constitution also 'regulates' these powers, e.g. by distributing them between countervailing powers). In the case of public law legal powers are constrained by the legality principle. This relates to the fact that the distribution of legal powers in a constitutional democracy takes into account the requirement of checks and balances of the **Rule of Law**. In the case of private law legal powers are constrained by the reasonableness principle (or equity in common law **jurisdictions**).

The attribution of legal power plays out in all domains of law. Private law, for instance, attributes to the owner of a legal good the legal power to transfer related property **rights**, provided specific conditions have been fulfilled. Criminal law, for instance, attributes to the court the legal power to impose specified (maximum) punishments, provided the conditions of a specific criminal offence have been fulfilled. Administrative law, for instance, attributes to **legal subjects** the legal power to object to decisions made by public administration, provided specific conditions apply. International law, for instance, attributes to states the legal power to conclude treaties, subject to the constraints imposed by the **sources of international law.**

Based on the discussion of **the framing concepts** in chapter 2, the concepts of 'legal subjects, 'subjective rights' and 'legal powers' can be understood as follows:

> The **mode of existence** of legal subjects, subjective rights and legal powers depends on the **affordances** of the text-driven normativity that informs modern positive law. As Diver notes in chapter 3, such text-driven normativity 'cannot directly prevent [a] traffic accident by wresting control of the car from the driver, or by preventing her from driving at a certain speed – these would be examples of techno-

> regulation, compliance by design, or "legal by design", each requiring technological intervention that goes beyond what text can impose. What text-driven normativity can do, however, is provide a framework that prefigures the relationships between those involved in and affected by that accident, and the consequences that flow from it after-the-fact.' The conceptual structure of modern positive law and the Rule of Law hinges on the institutional fact that only specified entities can act in law, that is they can exercise their subjective rights and use their legal powers when navigating their material and institutional environment, thus co-shaping it by transferring rights and imposing legal obligations. The use of written and spoken speech acts in law **affords** a kind of **legal protection** that takes human agency seriously as legal subjects with rights and powers, taking note of the complex dynamics and myriad ambiguities that 'make' human society. Legal subjects must therefore not be naturalised, as if they are identical with the situated, embodied person they enable. As Diver suggests, legal subjectivity is like an avatar that allows human persons to engage with other legal subjects under cover of a web of legitimate expectations, thus providing a kind of protection that institutes the **mode of existence** of human persons as embodied agents that cannot be reduced to predictable and manipulable entities.

4.4.5 Legal reasoning and interpretation

Based on the discussion of foundational legal concepts in chapter 3, the concepts of 'legal reasoning' and 'legal interpretation' can be situated **in relation to the other foundational legal concepts** as follows:

> **Legal reasoning concerns the justification of the determination of legal effect in a specific case**. That legal effect could, for instance, be the attribution of a **subjective right** or a **legal power**. The justification requires both the selection and interpretation of the legally relevant facts in light of the applicable **legal norm**, and both the selection and interpretation of the applicable legal norm in light of the relevant facts.

The justification is provided in the form of a syllogism. The major is a **legal norm** that attributes specified legal effect if specified legal conditions are fulfilled, the minor is a specified set of legally relevant facts that, supported by evidence, fulfil the relevant legal conditions and the conclusion is the attribution of the specified legal effect. The syllogism that defines legal reasoning is not a method to find the legal effect but a way to test whether a legal norm does or does not apply. This test requires a decision on what is the applicable legal norm, what are the legally relevant facts and an act of interpretation as to the meaning of the norm and the meaning of the facts. The justification in the form of legal reasoning (the syllogism) assumes that the norm and the facts have been decided.

The following types of interpretation are deemed valid: ordinary meaning (grammatical or literal interpretation) based on the prevailing meaning of the norm's text, framers' intent (the intent of the legislature) as inferred from official documents, systematic interpretation based on the role the relevant norm plays in the context of the relevant legal system (its place in the relevant statute, its relationship with other norms whether higher norms such as a Constitution or Treaty or precedent) and teleological interpretation based on the purpose (*telos*) of the relevant legal norm, taking framers' intent, ordinary meaning and systematic interpretation into account. Interpretation concerns **positive law**, as authoritatively decided by the legislature and the courts, taking into account the other **sources of law**, such as doctrine, legal custom and fundamental principles. This implies that interpretation concerns a specific **jurisdiction** and is not valid for other jurisdictions; what matters is not any interpretation but an interpretation that has legal effect within that jurisdiction. That is why legal reasoning is concerned with authoritative interpretation, anticipating how

legal norms will be interpreted by the courts, highlighting that this is not merely about logic but about the **legal power** to decide a case. Under the **Rule of Law** that legal power ultimately rests with an independent judiciary and not with the legislature.

Speaking of the mode of existence of law elegantly avoids metaphysical discussions about the difference between the ontological and the epistemological nature of law

Legal reasoning is often defined as deontological reasoning (not about how things are but about how they should be). On top of that legal reasoning is qualified as non-monotonic reasoning and considered to involve defeasible logic, which means that whereas 'if a then b' is correct for now, additional information may render it incorrect. For instance, the legal norm 'if a person has killed another person, that person is punishable' may be correct, but its application may be incorrect due to a defence based on justification (e.g. self defence) or excuse (e.g. force majeure).

The syllogism requires interpretation of the legal norm in the light of the facts and interpretation of the facts in the light of the legal norm. It thus requires a decision about the extent to which a case is like or unlike other relevant cases. Such a decision requires one of two types of reasoning: either by analogy, arguing that since one case is like another the same legal norms applies to both or *a contrario*, arguing that since one case is different from another the same legal norm does not apply to both. The decision on whether a case is similar to a previously decided case must be argued and in a constitutional democracy the legal power to make that decision is with the courts, as required by the Rule of Law.

Based on the discussion of **the framing concepts** in chapter 2, the concepts of 'legal subjects, 'subjective rights' and 'legal powers' can be understood as follows:

> Speaking of **the mode of existence** of law elegantly avoids metaphysical discussions about the difference between the ontological and the epistemological nature of law. Instead, understanding 'the way that law-as-we-know-it exists' turns on a proper understanding of the performative effect of written and unwritten speech acts. In other words, engaging with the law requires key attention to what the ICI of the printing press **affords** in terms of 'what law does'. As Duarte saliently writes in chapter 3: '[t]he activity of the judiciary is constituted and delimited by rules, principles, procedures and practices that, on the one hand, define its positive space of autonomy before other sovereign powers, and, on the other hand, negatively circumscribe its jurisdiction – i.e., its power to dictate the law – in the face of the spheres of legislature and administration. Legal reasoning incorporates the powers and constraints of the judiciary, thereby granting the legitimacy (indeed, the legality) of its authoritative discourse'. As law to 'does' just that 'with words', the kind of protection it offers cannot be understood as a matter of logical or causal inference and links the text-driven 'design' of legal protection directly to the Rule of Law. Interpretation. In the words of Duarte: 'Legal reasoning affords a guarantee that the modes of veridiction of law apply to the judicial discourse' and 'By affording referential practice points that allow making sense of the legal system, interpretation affords legal protection in a double sense. One, it establishes a language game that constrains authoritative reasoning and interpretation, thereby preventing their fall into arbitrariness. Two, it settles the language game that equips the citizen to contest an administrative decision (or a judicial one, through appeal) under the terms of law's mode of veridiction'.

4.5 Finals: effect on legal effect

4.5.1 Having legal effect or having effect on legal effect

If positive law attributes legal effect to the outcome of a code- or data-driven legal technology, that technology has intended legal effect. For instance if the legislature decides that an Act of Parliament is written simultaneously in computer code and in natural language, with both being enacted as representing the same set of legal norms, *this example of Rules as Code itself* has intended legal effect (e.g. a corporation may build its compliance software on the relevant computer code and claim it has thus achieved automated compliance). Or, if a court outsources the decision on what cases are inadmissible to an AI system that claims to predict their outcome, *that outcome itself* has legal effect (e.g. if the probability that the case will be won by whoever filed it is less than 5%, the case will be rejected as inadmissible). Or, if public administration outsources the decision on what applications for social security are granted to an ADM system, *the output of that ADM system itself* has legal effect (e.g. if the system has been certified as a proper implementation of all the relevant conditions for the application, its decision is final). Note that in all these examples legal remedies can be made available to enable people to contest the outcome: they could contest the interpretation that is inherent in the articulation of legislation in computer code; they could contest the reliability of the AI system used to predict the outcome of cases; and they could contest the software deployed to make decisions about social security. One of the many questions this raises is whether people are aware that a decision is made based on software and how, for instance, specific upstream design decisions end up having a major impact on the way they are treated.

If the outcome of code- or data-driven legal technologies does not, in itself, have legal effect, the deployment of those technologies may nevertheless impact the attribution of legal effect

If the outcome of code- or data-driven legal technologies does not, in itself, have legal effect, the deployment of those technologies may nevertheless impact the attribution of legal effect. This can be a matter of direct indirect impact.

If public administration deploys a programming language to transpose legislation into software and then uses that software to test whether people or corporations comply with the law, after which a civil servant decides whether or not a fine will be imposed, the software will have a **direct effect on legal effect**. Automation bias will contribute to civil servant semi-automatically following the output of the software, meaning that the situation comes close to the software itself having legal effect. Similarly, if a court deploys an AI system to predict the outcome of case applications, with the court registrar deciding whether or not a case is prioritised (e.g. in case of a heavy backlog of cases), the aim of this being more efficient implies that the predictions will have an indirect effect on the decisions made by the court, as their categorisation will push them up or down the line, causing a further delay for some cases though not for others. This will indirectly affect the legal effect, because such delay may cross the line towards indefinite postponements or because by the time the court comes to deal with the case other legislation may be in place or new precedent may be applied. A similar **indirect effect on legal effect** could play out when the police uses AI systems for crime

mapping, shifting attention to particular neighbourhoods, redistribution their attention of, thus also changing their ability to detect crime in other neighbourhoods which will leave some offenders off the hook.

Though it may help to distinguish between direct and indirect effect on legal effect, the more important point is to distinguish between having legal effect and having effect on legal effect. In both cases the point will be to ensure legal protection in a way that avoids a crumbling effect on the checks and balances of the Rule of Law.

4.5.2 Having legal effect

Legal effect is the vanishing point of modern positive law. Without it we have morality, politics or statistics but not law. Jurisdiction means nothing if there is no legal effect, the sources of law define what norms have legal effect, legal norms are defined by their legal effect and the attribution of legal subjectivity, subjective rights and legal powers all depend on their legal effect. The Rule of Law has no teeth and cannot offer any protection without legal effect.

Legal effect is neither causal nor logical but performative

Legal effect is neither causal nor logical but performative; the speech act that attributes legal effect does not cause or implicate that effect but affords the constitutive effect of 'doing things with words' in a very specific sense that is related to the internal and external sovereignty that grounds the ability to enforce legal norms. The ability to enforce, however, is not the physical or psychological cause of the effect – sovereignty itself is an institutional fact, i.e. the performative effect of a dynamic web of dedicated written and unwritten speech acts. Legal effect is text-driven, it is an affordance of the ICI of the printing press and cannot be reduced to physical force or mere convention.

Having legal effect is what defines modern positive law, or law-as-we-know-it. The fact that legal effect is a performative effect that 'does what it says' may seem a rather fragile basis for coordination, as the effect depends on a complex dynamic of linguistic interactions rather than brute force or strictly logical deductions. Brute force, however, would land us in a dictatorship, making us dependent on the wisdom or brutal self-interest of one person and their entourage; we invented the Rule of Law to overcome enlightened despotism, let alone ruthless tyranny. Strictly logical deduction or dynamic statistical prediction would, however, move us from human agency to its imitation, basically parasitising on our propositional representations or behavioural data by way of computational inferences. In the end, the performative effect of our complex interactional physical and institutional environment, is the mode of existence that best fits our embodied human agency, respecting our relational nature – provided we manage to institute, sustain and reinvent the check and balances that protect our relative autonomy (which is not a given but an affordance of how we rule ourselves).

Legislation is an institutional fact, built on written legal speech acts. It generates a specific type of legal certainty, as the text is equally valid for those subject to the relevant jurisdiction and available for contestation. Though some might think that contestation reduces legal certainty, the uncertainty that is inherent in human society means that contestation is a feature rather than a bug. Contestation enforces an agonistic debate about the interpretation of the text in light of the facts and vice versa, increasing the likelihood of a decision that takes all relevant arguments into account.

If positive law attributes legal effect to the outcome of a code- or data-driven legal technology, that technology has legal effect.

4.5.3 Having direct or indirect effect on legal effect

The key difference between having legal effect or having direct or indirect effect on legal effect resides in the different meanings of effect. **Legal effect is a performative effect that does what it says**, whereas the effect on legal effect is not a performative effect but a matter of **influencing**. In speech act theory this would be called **a perlocutionary effect, that is an effect meant to bring about a certain situation**.

> Legal effect is a performative effect that does what it says, whereas the effect on legal effect is not a performative effect but a matter of influencing

Take the example of a marriage. When the civil registrar declares a couple husband and wife, they are not trying to influence them into getting married. The civil registrar is involved in a performative speech act; once spoken (or once added to the civil registry), the legal effects of marriage are instituted. The difference between the perlocutionary effect and the performative effect is immediately clear, because we all know that influencing people in the hope of them getting married will – in itself - not have any legal effect. However, we could imagine a situation where such influencing has direct or indirect effect on legal effect. For instance, arranged marriages or the use of marriage brokers may in a culture where arranged marriages are part of the local tradition, this may have an impact on the type of marriages that are being concluded as the brokers may favour marriages within one's own cast – even if discrimination based on cast has been prohibited. If the civil registry deploys software to detect marriage fraud meant to obtain a residence permit for a person who would otherwise not be entitled to residence, the use of such software will influence the decisions of those working at the registry. The problem here is not only that the software may e.g. be biased against people with a specific ethnic background, but also the more fundamental fact that the software will work with some variable deemed relevant while leaving out others, thus surreptitiously influencing the kind of elements that affect decisions that may have legal effect.

Some scholars and policy makers, often influenced by the work of Kahneman regarding cognitive bias, believe that human beings are more prejudiced than machines, noting that the more intuitive motivation involved in human decision making is even less transparent than machine decisions, thanks to research in explainable data-driven AI or thanks to the fact that code-driven ADM can be traced back to 'lossless' implementation of a set of relevant rules. This could mean that all kinds of irrelevant, prejudicial and even racist motivations of individual human decision-makers will inevitably have a direct or indirect effect on legal effect, which would supposedly be very difficult to uncover compared to having software in place that is deemed objective as a matter of fact and whose reasons can be traced to a much further extent than the irrational biases of human beings.

In this project we critique these assumptions from two perspectives. First, as to human bias, the work of e.g. Gadamer or Gigerenzer shows that bias is inevitable for decision making and not necessarily a bug but mostly a feature. Second, again as to human bias, it should be clear from this research study that the required justification of legal decision making restricts the decision space of public administration and courts, thus limiting unwarranted effect on legal effect on the side of human decision makers while nevertheless fostering the agency of the decision makers. In the upcoming Research Study on Computational Law we will investigate the claims made on behalf of legal technologies with regard to their potentially objective, unbiased nature as well as claims as to their transparency.

We cannot assume that the meaning of legal effect as-we-know-it will not be affected by legal technologies that influence legal decision making

As a preparation for these investigations into the claims made on behalf of legal technologies and into the potential substantiation of those claims, we have developed an online webtool, called the Typology of Legal Technologies. This Typology can be found here and includes the vocabulary of foundational legal concepts that form the core of chapter 3 of this study and a vocabulary of similarly foundational computer science concepts, as well as a section on methodology, a section with answers to frequently asked questions and a section on dissemination. The Typology is meant as a method and a mindset, rather than merely a dataset or repository and we have been using it in teaching, tutorials at conferences and will be sharing it during upcoming expert meetings. The background research that informs the Typology will be further explored in the Research Study on Computational Law.

Finally, we cannot assume that the meaning of legal effect as-we-know-it today will not be affected by the deployment of legal technologies that influence the outcome of legal decision making. One of the reasons why we insist on adding inverted commas to 'law' when speaking of computational 'law' is that we do not consider indirect or direct effect on legal effect as itself being a matter of legal effect. However, once a legislature attributes legal effect to the outcome of these systems, even if under formal tutelage of a legal subject,

> the use of the tech might drive a kind of conceptual slippage about the meaning of legal effect/the circumstances in which it obtains. this might go hand in hand with changes in practices/institutions considered to be 'legal' and need not arise out of the formal attribution of legal effect to these systems by law-as-we-know-it.[12]

Such slippage, though seemingly an indirect effect on legal effect, could paradoxically end up divulging the concept and practice of legal effect from its performative nature, thus opening the road to a rule by machines.[13]

[12] Pauline McBride in a comment to the conclusions.

[13] On whether this makes sense, see Gianmarco Gori, 'Law, Rules, Machines' (PhD thesis, University of Florence, 2021), available at https://flore.unifi.it/handle/2158/1248529.