Factors underlying the transformation of law

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Abstract:
Presented as a "total social fact", the digital revolution is setting off major changes in the law. The many factors behind these changes have legal implications. They force every field of the law to take account of the introduction of information and communications technology in all human activities; and they induce national or international lawmakers to regulate digital techniques via the creation of a new discipline, digital law. These factors are also economic and social given the deep changes wrought in the practice of the law by the sudden appearance of new service-providers in legal technology. These legaltechs are proposing innovative services on Internet platforms, upsetting the economics of the legal professions and destabilizing the social position of these professionals. At the institutional level, these factors force the public service of justice to review its practices in relation to these new service-providers, the online settlement of disputes, the distribution (in particular geographical) of modes of access, the organization of court hearings and court decisions. These factors are also epistemological: big data, artificial intelligence and digital jargon are altering the nature of legal arguments and norms. Finally, these factors are political: by making possible a new system of transactions secured through shared trust (without a trusted third party), blockchains emancipate economic agents from both the law and justice systems. All in all, the conjunction of these factors is subversive; and the political, economic, ethical and symbolic effects are yet to be gauged.

Analyzing the factors underlying the transformation of the legal field by digital technology leads to examining how this "digital phenomenon", seen as a "total social fact", is in command of a dynamic process for modifying the legal system. In the brief inventory herein, this transformation is to be understood as a deep movement in the legal field.[1] For this analysis, the law can be defined, somewhat simply, as the set of rules from international or national sources (as understood in legal scholarship) that, interpreted and applied by jurisdictions, govern the relations between public and private persons in a given place. The phrase "digital technology" encompasses all known applications even if they are not of the same sort: information and communications technology (ICT), the Internet, digital platforms, Web services, the social media, artificial intelligence (AI), deep learning, open (public) data, big data, blockchains — anything covered by the "rendering revolution", to use a recent phrase coined with reference to the new methods of imaging.

The law, thus defined, has already undergone changes stemming from the globalization of trade. A "global law" has emerged free from geographical boundaries and partly independent of the actions of nation-states for both the formulation of rules and their application. Digital technology has amplified this twofold trend owing to its impact on both the substance of the law (its fields and contents) and its nature (the very conception of rules and principles). Let us successively examine the factors behind: this transformation of the substance of the law, the sociological and economic changes in the legal professions and the epistemological challenge to the law.

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[1] This article has been translated from French by Noal Mellott (Omaha Beach, France). The translation into English has, with the editor's approval, completed a few bibliographical references.

We can evaluate the momentum of the digital transformation in two ways: the one, practical (observing in the legal field the changes already made thanks to digital technology and those that are foreseeable as it develops); the other, speculative (anticipating trends in this technology and their probable consequences in the law). In the tangle of proliferating communications of unequal quality and interest, it is hard to discern what comes from either of these two approaches and what might only be a matter of marketing, or even a fantasy.

The transformation of law

With regard to the substance of the law, two changes are under way: the one affecting branches and disciplines of the law, and the other giving birth to a new corpus of law, a new discipline specific to the digital realm. Legal factors lie behind this transformation of the law.

Fields and subjects of law

As has happened historically for all major innovations, digital techniques are modifying the contents of the various fields or disciplines of law. ICT affects both legal facts (*i.e.*, events with legal consequences) and legal actions (*i.e.*, intentional manifestations of the willingness to obtain legal effects). It thus acts on the contents of the law insofar as lawmakers are led to draw conclusions about introducing digital technology in each field or discipline of the law. By offering new means for circulating information, the Internet has forced adaptations upon the codes and acts of law that apply to the press, intellectual property, advertising or labor disputes…. By creating new ways of selling goods and services, digital platforms require introducing new provisions in consumer law, in liability, sales, transportation, rentals, banks…. By eliminating trusted third parties, blockchains require adjustments in the fields of law having to do with contracts, patents, credit, financial markets, insurance and even divorce…. By allowing for formalities to be accomplished on line, ICT has introduced new relations between people and public administrations (including jurisdictions) that the law has to cover…. Countless examples can be mentioned. All fields of law, public or private, civil, commercial, social or even penal, whether substantial or procedural, must draw the consequences of the digitization of human activities. The consequences of digital technology are gradually invading all fields of law.

Digital law as a new discipline

Digital techniques are also becoming the subjects of new fields of law. There now exists a body of ICT law comprising case law and legal regulations, just as there exists a body of Internet law that regulates the relations between categories of stakeholders and users, not to mention the field of law on digital platforms for regulating these new players in the digital realm, the services they offer and the new markets they create. There also exists a body of law on electronic data: in the European Union, the GDPR in effect since 25 May 2018 and, in France, the Digital Republic Act of 7 October 2016, which provides for opening data from public sources (including the courts) to the general public.[2] Meanwhile, a legal framework for the social media is also taking shape.

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[2] Act n°2016-1321 of 7 October 2016 for a "digital republic" available at https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000033202746&categorieLien=id. The GDPR (General Data Protection Regulation): "Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data". Available via: http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1478961410763&uri=CELEX:32016R0679.

The question is cropping up about the usefulness, opportunity or possibility of establishing a legal framework for blockchains. Till now, the state has cautiously advanced toward presenting a few measures applicable to financial matters, but has abstained from legislating on the technology itself. An identical question arises about AI. Should regulations be limited to applications in specific fields, such as health, education or research? Or should rules be drawn up about the processing of personal data so as to control the neutrality and transparency of algorithms or to protect the algorithms themselves? Should a legal framework be set up specifically for the damages caused by AI? Some experts have even asked whether robots should be placed in an original legal category, thus creating a new subject of law.

In effect, a body of digital law is being formulated that, borrowing from public, private and penal law, transcends academic categories. Molded on the regulatory model, this new field of law is aligned on the evolution of techniques and the knowledge of operatives, who are closely associated with the work of drafting rules and regulations.

More than a regulatory framework however, stakeholders in the digital realm are looking for the principles of ethical governance, which would be both the basis of, and an addition to, public legal rules. The objective is self-regulation: to make operatives feel involved and responsible thanks to a set of founding principles, intangible and universal, that convey shared values; and to stimulate a collective sense of responsibility at all levels in the economic chain linking professionals and end-users, not only by adhering to the regulatory framework (in-house or international) but by establishing one's own code of conduct that lays down principles and sets limits.

As we realize, establishing the fundamental principles for a universal governance of the digital realm coincides with radical changes in law practices.

Sociological and economic changes in law practices

The effects of digital techniques on law practices have been widely discussed in relation to the activities of legal professionals (as a disruption of legal services) and to the operation of jurisdictions and the making of court decisions (now in the throes of a revolution).

The disruption of legal services

Within a few years, digital technology has sociologically and economically disrupted the market for legal services. Newcomers have suddenly popped up who are no longer jurists but businessmen, mathematicians and geeks. Startups (the legaltechs built on the "sharing" model of platforms) are offering innovative legal services that compete with those normally provided by persons in the regulated legal professions.

These innovations have several consequences. They offer access to legal services at a much lower cost. They force installed professionals to modify their business models and transfer repetitive tasks to new service-suppliers (which might be integrated in law offices). They also force these professionals to overhaul the organization of their practices, invest in the new technology, tap new sources of funding and concentrate on services with more value. A new economy for the production of legal services is arising, whence the need for regulations by public authorities. It is disrupting the status and roles of the historical legal professions. What is at stake is the social position of legal professionals.

AI is the most advanced technique in this trend. Characterized by the combined use of expert systems, data analytics, machine learning, natural language processing and syntactical (data) analysis, AI can calculate statistical probabilities about the duration and settlement of a lawsuit, whence the birth of the debatable concept of "predictive justice". AI modifies the activities both of the editors of legal databases and of legal professionals, who now have new tools for obtaining knowledge and designing court strategies. By improving the information that

citizens have about how to make their rights operational, AI reinforces legal security thanks to the statistical predictability of court decisions. What has changed is the relation to the law.

Blockchains, as recently introduced in the legal field, store and convey, without any intermediary, information that is transparent, has been secured and cannot be falsified. A blockchain has many advantages over classical contracts. Transaction fees do not exist; and the contract is executed safely, publicly and reliably without any possibility of it being altered or opposed. In short, blockchains allow for complex transactions and their execution without any party to the transaction being able to oppose them. This lays a new foundation for trust, which is absolute, independent of any judicial system and without intermediaries or litigation.

The judicial revolution

Digital technology has several potential uses in the Ministry of Justice.

Access to the law can be opened by making available on line to the public all useful information, whether about the consistency of rules or their jurisdictional application. The relation with users will have to be reexamined, starting at the widely spread points of contact, digital and interactive. Determining the venue can be done on line. The filing of a claim or investigation can be fully dematerialized, and even the full process (instituting proceedings, exchanging documents between parties to the suit, submitting evidence and delivering the ruling). Litigants, attorneys and judges would thus have delocalized, desynchronized access to legal databases and electronic records. The structures and venues of jurisdictions could then be reorganized. When litigants or professionals have to appear in court, this could occur via audiovisual channels; but this would entail overhauling proceedings.

Judicial authorities already have to reckon with private settlements. Legaltechs have specialized in settling the mass of cases of a single sort with the same grounds in the law. They offer on line standardized, controlled forms of alternative dispute resolution (ADR), certify the solutions proposed and offer them… to public services. What is at stake for public institutions is to not let private, uncontrollable forms of justice develop.

Thought must also be given to the argumentation used in judicial institutions. The traditional phases in designing arguments (via the usual method of successively chained syllogisms) will undergo automation, which will resort to new forms of rationality based on the analogies proposed by AI or else will combine these two methods so that AI assists decision-making.

Finally, the blockchain technique could be used to manage court proceedings and automatically execute the decision. This would help manage time while improving the transparency of lawsuits and the effectiveness of judicial rulings (by eliminating uncertainty about whether or not a court's decision will be executed).

Obviously, the coordinated implementation of these new forms of digital technology will considerably affect the economics of lawsuits and of the legal professions. It will have an impact on justice as an institution and on its symbolism. A reasonable approach would be to take into account the qualitative aspects of claims filed by various categories of users in order to respond to them in the light of: the gains in productivity and efficiency stemming from digital technology, the public resources to be devoted to the case; and the economic and social changes that this new way of exercising justice requires of the legal professions, while making sure that the relation to litigants retains the necessary degree of humanity. This equilibrium, hard to achieve, is the objective of the 2018-2022 program act for the French Ministry of Justice.

The choices made by public authorities must also take into account changes in the very concept of the law.

An epistemological challenge…

Without engaging a theoretical debate about the existence and contents of an epistemology of the law, we can show that digital technology is deeply disrupting the sources and very nature of the law. From this point of view, the underlying factors are not just economic and social, but also institutional, cultural, philosophical and political. They bring together elements that might subvert the law. In this challenge to the very concept of law, digital technology raises question about how it effects changes (by literally altering the rationality of the law) and about the very concept of rules (by figuratively transfiguring norms).

…to legal argumentation

A jurisdiction traditionally tries to establish the facts of a case in order to apply the appropriate law by pursuing a deductive logic qualified by many a factor drawn from the economic and social context, the situation of the parties and other adjustments grounded in reason (good sense, proportionality and fairness).

AI, at least "weak" AI, replaces this traditional approach with solutions drawn from algorithms, analogies between recorded situations classified by category, and the statistical density of previous court decisions (in all categories of tribunals). In line with this approach, the digital realization of the law is determined by numbers with no attention paid to possible nuances in arguments, to the hierarchy of legal precedents (A decision by a tribunal of first instance is not the equivalent of a ruling by an appellate court) or to how a court decision has been adjusted to the specificity of the case at hand. The risk, at least theoretical, is that rules will be repetitively applied in a depersonalized way. The ease of automatic decisions challenges the human ethics of judges. However this risk of standardization must be qualified given the plans for deep learning, which has the potential, as the machine learns on its own, of taking into account the singularity of situations and finely adjusting solutions to them.

We can glimpse a "strong" AI that would be capable of consciousness and emotions and thus have a sense of fairness. Can robotics be humanized?

…to norms

Blockchain technology contributes to this metamorphosis of rationality in the realm of the law by altering the rules themselves. By establishing a digital protocol of the conditions for executing a transaction, it replaces the law with computer code; and a decision (preprogrammed on the chain or by a neutral, impersonal third party) with an event (oracle) that triggers execution of the contract with infallible logic and no possible opposition. The traditional conception of the law is upended in two ways. Not only does computer code replace law (whether international or national), but also a transaction is realized without any possible control by a jurisdiction. The sovereignty of nation-states is thrown into question, namely the state's monopoly over the drafting of rules/laws and over the power to judge. Disruption is total — the realization of the libertarian utopia of a stateless society. This is not a simple modification of the law but a subversion by factors both political and cultural.

Conclusion

In summary, the factors underlying the transformation of the law by digital technology are: legal, since they modify the contents of rules; but also technological, economic and sociological, since they affect the legal professions and institutions that have the job of applying the law; theoretical since they alter the concept of norms and the argumentation used by the judiciary; and, finally, political since national sovereignty is undercut when rules, regulations and laws are drafted and applied.

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