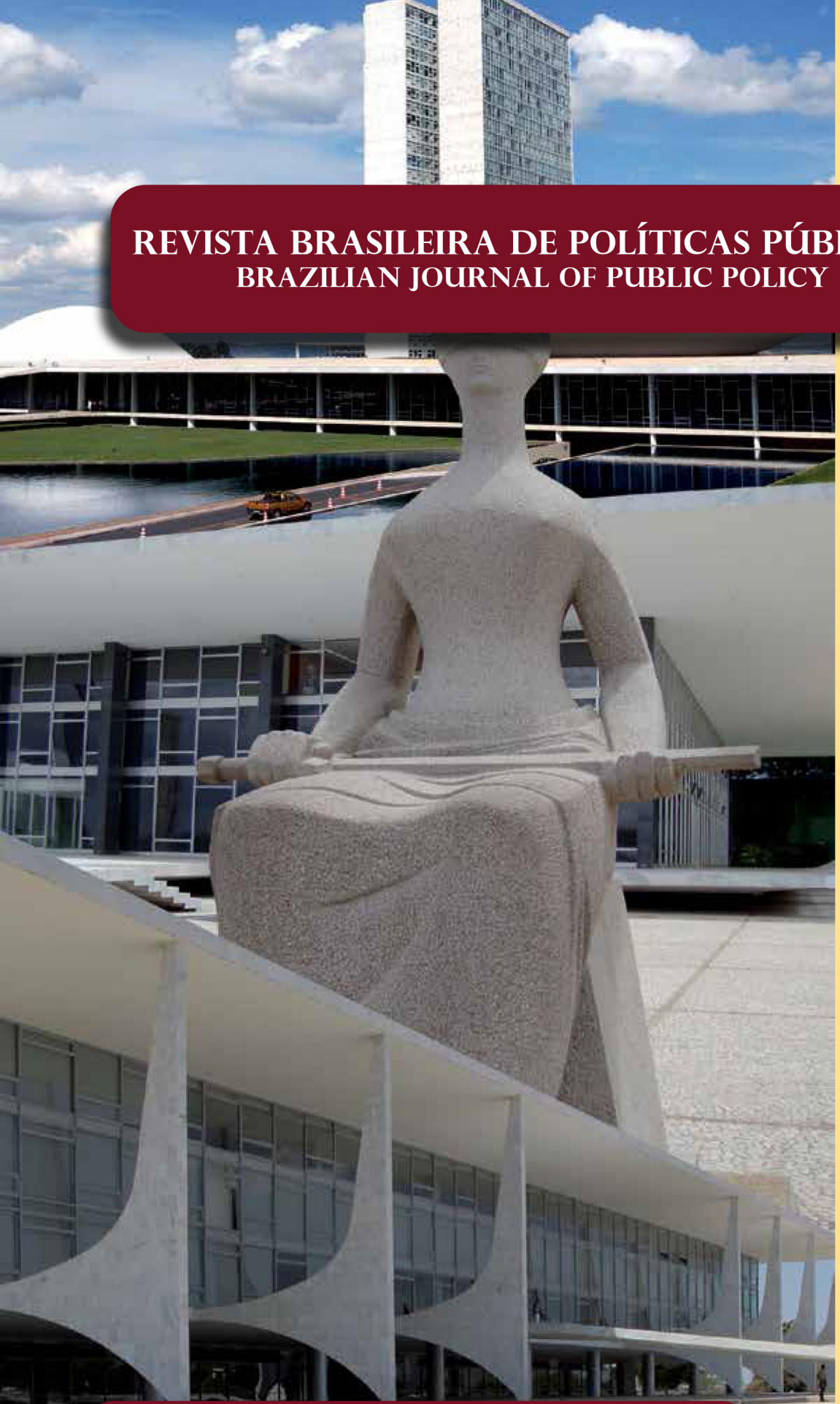

UniCEUB
ISSN 2236-1677

REVISTA BRASILEIRA DE POLÍTICAS PÚBLICAS
BRAZILIAN JOURNAL OF PUBLIC POLICY

The Datasphere and the Law: New Space, New Territories

A Datasphere e o Direito: Novo Espaço, Novos Territórios

Jean-Sylvestre Bergé

Stéphane Grumbach

VOLUME 7 • Nº 3 • DEZ • 2017
DIREITO E MUNDO DIGITAL

Sumário

doi: 10.5102/rbpp.v7i3.5075

The Datasphere and the Law: New Space, New Territories*

A Datasphere e o Direito: Novo Espaço, Novos Territórios

Jean-Sylvestre Bergé**

Stéphane Grumbach***

Abstract

Although many studies have been carried out on the way the law understands and deals with the digital revolution and particularly the *Internet,* we are unaware of any studies on the data sphere creating a new "space" for the law. This article, written as a result of discussions between a computer scientist and a lawyer, intends to challenge the constructions of International and European law as this new subject emerges and to examine relationships able to be formed with the territories. First, we need to define what the datasphere is; and second, we will re-consider, by way of case study, four highly topical areas: A. Platform activity; B. The portability of digital content services in intellectual property law; C. The right to be delisted; and D. The transatlantic transfer of personal data.

Keywords: Datasphere - Technosphere - Space - Territory - Internet - Intermediation platform - Delisting - Portability of online content services- Transfer of data

Resumo

Embora muitos estudos tenham sido realizados sobre a forma como a lei entende e lida com a revolução digital e particularmente a Internet, desconhecemos quaisquer estudos sobre a esfera de dados criando um novo "espaço" para o Direito. Esse artigo pretende desafiar as construções do Direito internacional e Europeu à medida que esse novo assunto emerge; e, examinar os relacionamentos capazes de se formar com os territórios. Primeiro, precisamos definir o que é o datasphere; e, segundo, iremos considerar, a título de estudo de caso, quatro áreas atualmente relevantes: A. Atividade da plataforma; B. A portabilidade dos serviços de conteúdo digital no Direito de propriedade intelectual; C. O direito ao esquecimento; e, D. A transferência transatlântica da data pessoal.

Palavras-chave: Datasphere - Technosphere - Espaço - Território - Internet - Plataforma de intermediação - Exclusão - Portabilidade de serviços de conteúdo online - Transferência de dados

* Artigo convidado

** Law Professor at the University of Lyon – IUF. Email: jean-sylvestre.berge@univ-lyon3.fr

*** Director of research at INRIA, director of the IXXI (ENS Lyon). Email: stephane.grumbach@inria.fr

1. Although many studies have been carried out on the way the law understands and deals with the digital revolution and particularly the Internet[1] (to a lesser extent, on the general issue of the relationship between geography and the law[2]), no study has attempted to establish a link between the datasphere, considered as a new space derived from the technosphere[3], and the law[4].

This can undoubtedly be explained by the fact that the law, like all traditionally-established disciplines, is organized into many separate specialities. The highly sophisticated nature of each particular speciality prevents them from developing freely beyond their established boundaries. To understand and implement a relatively new and extremely large-scale phenomenon would require a boundary-less approach, with no reference to any starting point specific to any one area of law, including international and European law[5]. This approach could only work if it were multidisciplinary, the specialist accepting a certain temporary dilution of their high-level, technical knowledge and open to other disciplines. To enable the various disciplines in question to identify and describe new phenomena that have not yet been fully assimilated into either of them, this open approach is the only way information can be received and shared effectively.

That is the adventure we would like to embark upon here. Two researchers, one in computer science[6] and the other in law[7], ask how the law could re-examine its constructions in light of the emergence of the datasphere as a new space.

2. One could question the relevance of a study on the entire technosphere, i.e. a study focusing on the over-arching level of complex systems that humanity has developed, rather than on one particular aspect such as the *Internet*[8]. Nevertheless, this choice can be justified by the interdependence that exists between the systems. Our modern era has been shaken by profound and fast-moving changes affecting a broad spectrum of areas ranging from our environment to the very organization of our societies. Everything seems susceptible to challenge, from the sustainability of our economic and political models, to the robustness of our means of interaction with our planet. The increasing impact of human activity on the planet has effectively led to the introduction of a new geological era, the Anthropocene, characterized by the determining influence of humans upon the climate and the environment[9].

Although it is still not officially recognized as a stratigraphic unit and although it still stimulates debate within the scientific community, the Anthropocene era provides an extremely useful conceptual framework

1 From among the prolific amount of literature on the subject, note in particular the 2013 conference papers of the SFDI, Internet and international law, with the great many bibliographic references they contain, Pedone, 2014. Comp., C. Castets-Renard's book in French, *Droit de l'Internet: droit français et européen*, Montchrestien, 2012 and the book by L. Street, M. Grant, S. Sheets Gardiner in English, entitled Law of the Internet, Lexis Nexis, 2015.

2 See in particular the collaborative study on this theme directed by P. Forest, *Géographie du droit - Epistémologie, développement et perspectives*, Presses universitaires de Laval, 2009, containing a very comprehensive historical account of the trend Legal Geography across the Atlantic ("*Géographie du droit: l'épissure de la norme et de l'espace*", spec. p. 23). See also, the pioneering work of geographer J. Gottmann (in particular, The Significance of Territory, The Univ. Press of Virginia, 1973) that sought predominantly to interpret the language of judges (international judges, Supreme Court judges) across the territories.

3 The term "space" should be understood here in its most inclusive and encompassing sense, in the same way as the terrestrial, maritime, airspace (etc.) spaces defined by the lithosphere, hydrosphere, atmosphere (etc.).

4 Research into the databases of English language legal journals (Westlaw) using the keywords "datasphere" or "technosphere" produce very few results; the situation in French journals is no better: there are no articles that mention the expressions in the title or the keywords (source: Doctrinalplus).

5 See this suggestion put forward in relation to the phenomenon of movement by J.-S. Bergé, *Le fait de circulation inter-territoriale: la méthode du juriste en question*, JDI 2016, 61.

6 Stéphane Grumbach - https://who.rocq.inria.fr/Stephane.Grumbach/

7 Jean-Sylvestre Bergé - www.universitates.eu

8 From the Internet to cyberspace, the concepts are numerous and often poorly defined. The Internet is a physical infrastructure, often confused with the web, which is a services infrastructure. Cyberspace is composed of private and public players, material or virtual, who contribute to the building and operation of the digital economy. The datasphere is a much more general concept, reflecting the various spheres of earth sciences.

9 S. L. Lewis ; M. A. Maslin, Defining the Anthropocene, Nature, 519(7542), March 2015, p. 171.

for comprehending the global nature of the transformations currently affecting the world[10]. These changes disrupt many balances, from the stability of chemical transformations to political and economic power relations and bring territories and borders into question.

The earth sciences subdivide the environment into a collection of spheres, such as the lithosphere, atmosphere or biosphere. Each of these spheres has its own particular logic. They drive chemical and physical transformations, movements of matter, all of which are of a homeostatic nature, i.e. have the capacity to maintain a stable equilibrium. The spheres therefore have a conservative dynamic[11]. A good illustration of this type of transformation is the water cycle, where water flows into rivers, joins up with the sea, evaporates and falls back down to earth.

3. The technological developments surrounding us, upon which humanity now depends as much it does upon our planet's other resources, have led to the emergence of the concept of the technosphere, inspired from the classic spheres within the Earth sciences. The technosphere is made up of the interconnecting systems of communication, transport, exploitation of raw materials, energy production, industrial transformation, modern agriculture and administration. The concept is consistent with the importance of the transformations at work and their impact on the planet. The movement of solid matter resulting from the technosphere is of the same order of magnitude as that produced by the other spheres, such as the hydrosphere for example[12].

Like the other spheres, the technosphere is deployed across the entire planet. As surprising as might seem at first, it is also becoming increasingly independent of human decision in much the same way as the other spheres. Its autonomy is advanced further by the dependence our societies place on the technosphere's operation, without which our lives on Earth would be considerably more restricted, together with the complexity of its organization.

The technosphere offers an extremely useful systemic framework for modeling two currently essential agents of transformation; climate change and resources on the one hand, and digital organization on the other. The debate on climate change, like that on the emission of CO2 into the atmosphere that is produced on a particular national territory but has a global impact, challenges both the principle of sovereignty of the Nation State and the limitations on powers of intervention. They drive for new rules of law, particularly international and European law. However, despite being a fundamental field of investigation[13,] we will leave the technosphere aside to focus on the new digital space that regulates and controls the technosphere and on the new relationships with the territories concerned[14].

4. The datasphere poses many challenges to the various constructions of the law (both public and private, at local, national, European, international and transnational level). We will address the issue from two different perspectives to try and understand these challenges through the prism of international and European law. The first approach considers the datasphere as a whole (I.). The second considers a variety of illustrative cases, chosen in light of the most recent developments, which fuel a more detailed reflection

10 For a study in environmental law, see A. Geslin, Etats et sécurité environnementale, états de l'insécurité environnementale : de la recomposition normative des territoires à l'esquisse d'un droit de l'anthropocène, in J. Tercinet (dir.), Etats et sécurité internationale, Bruylant 2012, p. 87. For a very recent study in American law: see E. Biber, Law in the Anthropocene Epoch (September 2, 2016). UC Berkeley Public Law Research Paper No. 2834037. Available at SSRN: https://ssrn.com/abstract=2834037 or http://dx.doi.org/10.2139/ssrn.2834037

11 PK Haff. Technology as a geological phenomenon: implications for human well-being. Geological Society, London, Special Publications, 395(1), 2014, p. 301.

12 PK Haff. Technology and human purpose: The problem of solids transport on the earth's surface. Earth System Dynamics, 3(2), 2012, p. 149.

13 On this equally abundant subject, see for example, with the plentiful suggested bibliographic references, M. Fitzmaurice, S. Maljean-DuBois, S. Negri (ss. ed.), Environmental Protection and Sustainable Development from Rio to Rio+20 - *Protection De L'environnement Et Développement Durable De Rio À Rio+20*, Brill - Nijhoff, 2014; S. C. Aykut and A. Dahan, *Gouverner le climat* ?, Sciences Po - Les Presses, 2015.

14 On the links between these two transformations, environmental and digital: S. Grumbach, O. Hamant. Digital Revolution or Anthropocenic Feedback? 2015. <hal-01227303>.

on the datasphere (II.).

1. The datasphere considered as a whole

5. To measure the importance of the legal changes triggered by the world of data, the "datasphere" needs to be considered as a new space (A) that creates new types of relations with territories (B).

1.1. The "new space" phenomenon

6. The development of information and communication technologies, such as smartphones and the numerous sensors spread across the public and private space, has promoted the digitalization of a considerable quantity of data on human activity and on the world around us in general. Units of measurement such as zetta, denoting thousands of billions of billions, 10^{21}, have been introduced to designate these orders of magnitude, known in the realm of natural sciences, but until recently absent from the realm of human activity. Today the quantity of data is increasing exponentially in accordance with a law similar to Moore's law, which in 1965, predicted that computers' capacity would double every 18 months.

The data, closely linked to the algorithms supporting them, make up a new space known as the "*datasphere*". This is a digital sphere or data sphere, a kind of reflection of the physical world, in which we detect traces of the activity occurring in the physical world, such as our position at any given moment, our exchanges, the temperature of our homes, financial movements, trade of goods or road traffic.

This digital sphere allows activities that did not previously exist to be created, such as search engines for accessing knowledge. However, it also enables activities that have always been ensured by players in the physical world to be transferred into the digital sphere, such connecting drivers with passengers.

7. In order to understand the datasphere as a new space, we must regard it from a holistic perspective, as a system formed by the whole range of digital data in its various forms. Where the hydrosphere is based on the water molecule in its various forms (frozen and flowing), the datasphere is built on a component, the data bit, independent of who controls the various data bits, network nodes or the essential services exploiting the data.

In the same way as we can distinguish the different states of water of the hydrosphere, we can identify different states of data. These can be open, meaning fairly widely accessible, or closed, meaning accessible but with tight access restrictions. They can be static, at rest somewhere, or dynamic, in motion. As for water on earth, we observe a data cycle, from little drops to large masses and vice versa. The data is generated from the activity of humans or equipment (the sensors) in the territories, flows into storage and data centers and returns to the individual players following transformation.

8. Like the hydrosphere, the datasphere interacts with the global environment. It is anchored in the physical and economic world on which it is based, whilst also being largely independent, like oceans or clouds.

The grounding is first physical. The datasphere rests on physical infrastructures. The data centers are important infrastructures, storing and processing the data and managing interactions with the outside world and its players. The communication infrastructures, undersea cables and satellites support the bulk of exchanges. Telecommunication operators ensure connection with final entities, whether they are persons or things. This physical infrastructure is far from negligible. It currently consumes close to 10% of the world's electricity.

The grounding is also economic. The datasphere is built on a certain number of large economic players, large multinationals first and foremost, whose headquarters and branches have complex links with the territories, as revealed by Edward Snowden's leaks into the international public arena. The issue of the public agencies' access to data for security reasons is changing at global level due to political challenges, but also due to the extremely rapid evolution of technology and systems. The datasphere's grounding in the economy is becoming increasingly intense. Never has any industry known such rapid growth in capitalization. In 2010, half of the global top 10 companies by market capitalization were oil companies. Today, data has replaced oil, and now more than half of the global top 10 companies by market capitalization are digital platforms, all American or Chinese at present. A single oil company[15] has survived this reversal of trend, so symptomatic of the rebound of the Anthropocene era.

9. Considered as a new space, the datasphere challenges the law on the way it understands spaces in the widest sense of the term, as intended here.

The solution must principally be sought in the constructions of public international law. There exists an international regime of spaces where international law adopts an overall approach to land space; the sea, international canals, rivers and lakes, the air, outer space[16].

The question is whether the datasphere requires the same "need of law"[17] justifying an overall approach in terms of "space". Answers have been given in the specific context of the Internet, for example. The image of "cyberspace", its ambitions for independence[18], its own regulatory regimes and the types of players involved undoubtedly feed wide-ranging debate on the subject[19].

However, what about the datasphere, with a larger extension, potentially covering the whole of human activity on the planet? Has there been a proposal for a global study to identify that sphere as a space, potentially subject to one or more legal regimes? It seems that the answer has to be negative.

Legal constructions do not yet recognize the datasphere as a new space. Unlike the other spheres (such as the lithosphere, the hydrosphere, the atmosphere), the datasphere is not yet considered as creating a specific field of human activity into which the law could intervene and organize.

10. Nevertheless, this area warrants reflection and examination, particularly on the overall relationship between the emergence of a new space and the definition of new relationships with territories[20]. The perspective of a new space allows an overarching concept to be established, not currently addressed in the literature on the subject, and which would improve our understanding of the classic or potentially newly-formed relationships with territories.

1.2. The new relationships with territories

15 Exxon up with Apple, Alphabet, Microsoft, Facebook, Amazon, and Tencent.

16 In books on public international law, we find systematic reference to these various spaces. See, for example, with the many suggested bibliographical references: P. Daillier, M. Forteau and A. Pellet, Droit international public, 8th ed. LGDJ, 2009, n° 298 et seq.; n° 662 et seq.

17 For use of this expression ("a need of Law") in relation to the suborbital space, see P. S. Dempsey, M. C. Mineiro, Suborbital Aerospace Transportation and Space Traffic Management: A Vacuum in Need of Law (October 3, 2008). Presented at the 59th IAC, Technical Session E3.2 on Space Policies and Programs of International Organizations, held in Glasgow, Scotland 2008. Available at SSRN: http://ssrn.com/abstract=1285623.

18 See in particular, A Declaration of the Independence of Cyberspace by John Barlow, 1996. https://www.eff.org/fr/cyberspace-independence

19 See with the numerous cited references, A.-T. Norodom "*Propos introductifs - Internet et le droit international: défi et opportunité*?", in Internet and international law, prec., spec. p. 11 et seq.

20 On the relationship between the space and the territories enabling it to be defined, see the fine study presented by A. M. Brighenti with its many cited references, "*Pour une territoriologie du droit*", in P. Forest (ed.), *Géographie du droit - Epistémologie, développement et perspectives*, PUL (Laval), 2009, spec. p. 244.

11. Two new types of relationship are formed from the emergence of a new space. First, the datasphere triggers the creation of new relationships with the conventional institutional territories (e.g. States, towns, international and regional organizations). Second, the "datasphere" space potentially gives rise to new territories.

12. New relationships with conventional or traditional institutional territories, formed as a consequence of the datasphere, are generated by the phenomenon of *detachment* from these territories. The technosphere creates new sets of circumstances, particularly those born out of the global digitisation process. Facts are seized by data. The collection, processing and movement of such data in dematerialized form create circumstances that are detached from the conventional territories. The data generates a value that is independent and intangible from the physical resource itself[21]. Once this data moves around in its own sphere, it generates a new relationship with the traditional institutional territories.

This phenomenon raises numerous difficulties.

Detachment from traditional institutional territories raises the issue of the maintenance of existing legal mechanisms that currently establish links between circumstances the law wants to govern and the territories producing the law. In order to localize a circumstance in a global space comprised of several territories, the law defines spatial applicability rules[22] that establish a connecting factor between the rule of law produced by a given normative authority (a State, a town, an international or regional organization) and the concrete circumstances. This connecting factor is based on an extremely diverse set of localization criteria, whether factual (location of an asset or a person on a territory at a given moment) or the consequence of a legal construction (nationality, domicile, registration).

However, these localization criteria are distorted when considered from the datasphere perspective. If the circumstance to be considered as detached from conventional institutional territories, other connecting criteria must be developed, or even devised, between the circumstance to be governed and the rule of law. We will come across this far-reaching difficulty in relation to the four case studies considered in the second part of this analysis[23].

13. The other perspective offered by the emergence of a new "datasphere" space is the emergence of new territories, distinct from the traditional institutional territories. The way in which the law has dealt with new territories in other existing spheres is a classic illustration of the lawyer's ability to revisit their subject areas in line with developments in human ingenuity. There are many relevant illustrations of the law's quest to cover human ingenuity with its constructions: the atmosphere and space laws in continual transformation[24], the hydrosphere and current discussions on regulation of the high seas[25], the lithosphere and the highly-debated case of the Arctic[26] and even the biosphere and all of the legal constructions developed

21 We might think that most of the data reaching the data sphere originates from urban areas. This is far from being the case. In actual fact, the agricultural areas, although poorly populated, are becoming increasingly connected to the data sphere. In the United States, half of the areas under cereals are connected to the data sphere and gathered data from sensors installed in the land parcels continuously provide the farmers with precise information on water and pesticide requirements, for example. The service provided to farmers is made possible by the combination of macro level data, for example meteorological, with macro level data supplied by the sensors. In addition to this relevant short-term information, the data sphere also provides relevant long-term information, for example, which crops to plant for the following year in light of climatic predictions. We can see that no area of human activity remains uncovered by the data sphere.

22 On this concept that is a highly interesting entry opportunity for all questions on the spatial scope of application of the rule of law, see the major study of M. Fallon, *Les règles d'applicabilité en droit international privé*, in Mélanges to Raymond Vander Elst, ed. Nemesis, Brussels 1986, p. 285. See also, by the same author: "*Les frontières spatiales du droit privé européen selon le droit de l'Union européenne*", in E. Poillot and I. Rueda (ed.), *Les frontières du droit privé européen* / The Boundaries of European Private Law, Bruylant 2012, p. 65.

23 See Below, Part II.

24 On which, in particular: A. Costes, *L'évolution Du Droit De L'espace En France*, Paris, *Ministère De La Recherche Et Des Nouvelles Technologies*, 2003 ; M. Couston, *Droit Spatial*, Ellipses, 2014.

25 In March 2016, the UN announced the opening of negotiations on the legal regime of the high seas.

26 See the international symposium organized by the ILA (Scientific Ed. R. Bismuth), L'Arctique, Nouvelle Frontière Du Droit International? June 2016.

around natural resources, such as food resources[27].

Various routes could be explored to this end with regard to the technosphere. One would be to define the territories within the datasphere according to proximity to the conventional institutional territories and their rules of access, just as for maritime space that distinguishes the high seas, exclusive operating zones and territorial zones. We could also point to the deep web, made up of non-indexed data produced by the various search engines. In fact, the majority of data lies within this zone. The much smaller dark web is made up of data transiting through virtual networks and is only accessible by means of specific software, such as *Tor* or *Bitcoin*, a zone that is doing its best to liberate itself from existing rules of law[28].

We could also explore the possibilities and limits of a territorialisation of this new space. The uniqueness of the worldwide communication protocol between computers (TCP/IP), which makes up the infrastructure for the exchange and transformation of data, is what gives the datasphere its homogeneity. The use of separate protocols in different world regions would create disjointed territories, communicating between each other using limited broadband channels. Such a possibility has been considered as a balkanisation of the Internet[29]. By using a standard protocol, it is also possible to control what passes through the channels. Certain countries, such as China or Russia, have built firewalls in this way generating new borders and enabling two-way limits to be put on exchanges, i.e. on both access to zones outside boundary areas and on the reciprocal importation of data. The delimitation of their frontiers or borders and their potential lack of correspondence with classic institutional borders obviously provokes questioning.

14. Acceptance of these new territories generally goes hand in hand with the acknowledgement of new players contributing to a change in the existing power relationships. A considerable amount of literature has been written on the existence of transnational legal spaces, detached from the traditional state or interstate territories, which are capable of producing their own specific law - transnational law - most often bringing new players into transnational society[30]. This type of issue, which is no new challenge, readily applies to the datasphere. It has been the subject of many studies on Internet governance issues[31]. It would require wider analysis with respect to the datasphere.

As we will see, all of these general questions are relevant when dealing with the specific circumstances arising from the emergence of a new space and the new relationships with territories.

2. The datasphere – case studies

15. We have selected four themes with which we will continue analysing the datasphere as a potential subject-matter of international and European law: platform activity (A), the portability of digital content services in intellectual property law (B), the right to be delisted (C) and the transatlantic transfer of personal data (D). These diverse and highly topical subjects[32] clearly illustrate the potential of a "datasphere" perspective in international and European law.

27 On which, see the various research studies carried out by the ERC Lascaux programme and the action currently being undertaken: http://lascaux.hypotheses.org

28 J. Wood, The Darknet: A Digital Copyright Revolution, Richmond Journal of Law and Technology, 2010, 16(4), P. 15.

29 D. Polatin-Reuben, J. Wright, An Internet with Brics Characteristics: Data Sovereignty and the Balkanisation of the Internet, 4th UNENIX Workshop on Free and Open Communications on the Internet (FOCI 14), 2014.

30 We will mention just two recent books and: G.-P. Callies et P. Zumbansen, Rough Consensus and Running Code - A theory of Transnational Private Law: Hart, 2012; G. Lhuilier, *Le droit transnational*, Dalloz 2016. For a linking of these transnational spaces and the importance taken by quantification companies, see the book by A. Supiot, *La gouvernance par les nombres*, Fayard, 2015.

31 See in particular the references suggested in note 1.

32 Each of these themes could be the subject of a separate study. They are not studied separately here. The bibliographic system will therefore be greatly reduced.

2.1. Platform activity

16. The large digital platforms[33] are new players, which differ radically from other public or private entities in numerous respects. They center on two main pillars. The first is the direct relationship with their "users", for whom they provide easy access to services. The second is the ecosystem they establish that allows many service operators to pass through the platform in order to reach their users.

The platforms are first and foremost intermediaries. They connect service consumers with matching service providers in a two-sided market. An urban transport platform, for example, operates in this way, connecting drivers and passengers. It is also how history's first large platform, the search engine, operates, acting as the intermediary between webpages and people searching for content using the engine.

In general, the platform does not interact with its users beyond data exchange[34]. A search engine exchanges keywords entered for a search with an ordered list of relevant pages.

In addition to this actual exchange of data, the platforms also provide financial exchanges that can be viewed as a particular type of data exchange.

The platforms therefore ensure inter-mediation using only the data available to them, entirely within the technosphere's digital layer, with no interaction, other than digital, with actors in the physical world. In doing so, they take over from actors in the physical world who then offer services to their customers and ensure their provision, such as taxi companies in the urban transport business.

17. It is easy to understand the reasons for the success of platforms, and even the inevitable decline[35] of traditional operators. This success is due firstly to the high quality of the digital services, the superior level of technology and the possibility of personalizing the services. Secondly, it is due to their ability to deal effectively with considerable masses of data, which means being able to provide an unrivaled quality of service. Finally, and above all, their independence from the physical world greatly increases the platforms' capacity for supplying services compared to traditional service operators.

Beyond the above comparative advantages of digital operators, the platforms radically transform the world of services because they exist in the digital sphere. This transformation causes four critical ruptures of traditional organization[36].

The first is the capacity to switch from one side to the other, for instance a service consumer can become a service provider and vice-versa. This role reversal is difficult in the physical world. The service providers have a legal existence and also often need a right to exercise. In the digital world, any person could be a potential service provider. It is this reversibility that, in particular, enables the sharing economy and activities such as car pooling.

The second rupture relates to a new contract of trust and confidence, which is no longer founded on a vertical organization, but on a horizontal construction based on peer assessment and evaluation. The quality of a service provider, for example a driver, is no longer appraised hierarchically by their employer, but by the people who have been in relationship with them and have given feedback. This new horizontal form of trust relationship is what makes the platforms possible.

The third rupture follows from the quantity of data handled, which becomes a resource for unlimited

33 Among which, Google, Apple, Microsoft, Facebook, Uber, Amazon, Alibaba, Baidu, Tencent, to cite only a few emblematic examples.

34 There are at exceptions to this model. Certain platforms also distribute goods (e.g. Amazon) and others produce them (e.g. Netflix). However, this in no way invalidates the true innovation of the purely digital activity of the majority of platforms.

35 On this point, S. Grumbach, "*Qu'est-ce que l'intermédiation algorithmique*", Bulletin de la société informatique de France, 1024, number 7, November 2015, p. 93.

36 J.-C. Rochet, J. Tirole, Platform competition in two-sided markets, Journal of the European Economic Association, 2003, 1(4), p. 990.

uses, much like oil. It should be noted that the platforms' economic model relies on their externalities, and not on what can first appear as their core business. For instance, the search engine, which collects a series of queries corresponding more or less precisely to a geographical and temporal context, potentially going as far as identifying the user, revolutionizes the advertisement economy.

The fourth fundamental rupture is based on the pricing system, which is also innovative. As for all two--sided models, the platform's payment method is not symmetrical. The credit card is a good illustration of this. It is free for consumers but charges merchants a proportion of the transaction. A great many services are free for their basic users, search engine, social networks, communication tools, etc. The economic model is grounded on other sides in which the externalities are exploited. For activities involving financial exchange, the platform is able to calculate the price in advance and to operate the transfer, which constitutes real progress. In addition, the price can be adapted and evolve dynamically according to supply and demand.

18. With personalized services, a new mode of trust and an independence of a particular offer, platforms are bringing out new features that can be used without any geographical limitations. They create new forms of territory, as a digital over-layer, detached from the conventional institutional territories (States, territorial authorities, international or regional organizations) and potentially have their own rules and their own payment methods. In this way, they might enter into conflict on conventional institutional territories, both national and local, and possibly regional and international. The emerging power relationships, however, are not easy to define. By virtue of their role, these platforms hold a status beyond that of a multinational and share a certain number of State prerogatives. They can print money, independently of State central banks. They sit at the core of defense systems and at the forefront of surveillance systems and the fight against threats on State security. They have a direct link with their users, a population distributed throughout the world, but with no borders. These platforms also contribute to the imposition of new norms of conduct.

Through the perspective of the various innovations enabling the platforms to operate, the law is challenged as to how to apply its traditional solutions to a new reality. The two-pronged central issue is how to establish a link between the old and new territories and how the new territories can free themselves from solutions deployed in the old territories.

19. The first issue highlights the difficulty to connect platforms with traditional territories. Employment law, the tax structure, civil and (in particular) criminal liability are structures that are equally grounded in traditional territories, and which need to apply to platform activity. For example, if it can be said that a relationship is formed between the platform manager and the driver of a car linking up with a customer, a relationship that potentially falls within employment legislation, the law governing the place of performance of the driver's service would have to apply to the platform[37]. By imposing itself, national legislation re-establishes a connection between a traditional territory (the State of the place of performance of the work) and the link-up service, which has no physical point of attachment to that territory. In the same way, charging French tourist tax on the rental of a property located in France, such rental being made possible by a worldwide platform connecting landlords and tenants from around the world, would be a way of linking an intermediation activity that does not involve the intermediation actor on site, to a traditional territory[38]. Finally, the re-occurring issue of the, albeit indirect, implication of platforms in cases of civil or criminal liability, which generate the circulation of illegal content on the digital networks, forms part of the same debate. Should the activity of platforms, which protect themselves from any connection to the territories sanctioning such content, be implicated within the legal provisions regarding imputability[39]?

20. The second issue relates to the ability of the large global platforms to define their own law. A state-

37 Article 8 of (EC) Regulation n° 593/2008 of the European Parliament and of the Council of 17 June 2008 on the law applicable to contractual obligations (Rome I).

38 Let us remember that collection of the *taxe de séjour* by digital world intermediaries required an amendment of the law (Law n° 2014-1654 of 29 December 2014 relating to finances for 2015, art. 67).

39 For points raised in lively debate on the right to be delisted, see below, n° 26 et seq.

ment of their Terms-of-Service Agreement and their deployment on a global scale permits the red rag of a *lex electronica* to be waved, which would compete with the original state and interstate rules in their intention to govern legal relations. This debate around the emergence of a transnational law nurtured by globalisation, i.e. by a weakening of the central role played by the States, is not new[40]. However, it is clear that the ground underlying the platforms' economy is particularly ripe for study. Discussions on this topic still remain wide open. The platforms themselves are keenly promoting the argument of subjecting their activity to the court and national law of the State in which they are established. The competing jurisdiction of the user's State courts over the applicable law has been fairly successful in resisting these claims[41]. We are therefore far from a fully transnational law even though we are led to recognize that the transnational activity of platforms generates specific practices that, through large-scale repetition, are becoming, if not the applicable law, at least an offer of law, which a considerable number of actors are more or less consciously accepting.

21. This dialectic relationship between old and new territories giving rise to the perspective of a new data space must not be understood as being one way. It is not simply the case of a law/modern player competing against a law/old player. Above all, there is an increasing number of traditional and new territories of law. Both old and new players must be able to become fully involved in this new space, it being a particular challenge forthe old players who can only properly comprehend a new space if they develop the tools needed for it.

Neither the French labour inspectorate URSSAF nor the tax authorities can properly apply traditional national regulations in the datasphere without using technospheric tools. They must become fully fledged players in the platform economy. In order to do so, they must both use the same technological processes.

For example, an URSSAF application ("app" in digital jargon), connected to the UBER app linkingdriver and customer would be the indispensable instrument within the datasphere for the application of the rule of law for charging social security contributions and paying out social benefits in the exercise of certain professional activities. This ability of a traditional player to evolve in the new datasphere territories enables that player to assume its full part in a multisided world where the "public" app coexists with the "private" app. Like UBER, URSSAF is becoming a data intermediation platform and that is undoubtedly a necessary criterion for the effective implementation of the rule of law. All the players must be aware of their need to change, within the same space, within the various territories, traditional and new.

2.2. The portability of digital content services in intellectual property law

22. On 9 December 2015, the European Commission (EU) put forward a regulation proposal "on ensuring the cross-border portability of online content services in the internal market "[42]. This proposal meets the specific objective of enabling a user of online content services (particularly music and video) to have continued access to that content when they travel on a short-term basis to a member State that is not their country of residence. Currently, online content is not generally accessible. A subscriber, who spends a short time in another Member State and wishes to continue to have access to their subscription, finds themself restricted from doing so. The geo-localisation of their network connection prevents them from having access to content in a Member State other than the one in which they contracted the online service.

To remedy this situation, article 4 of the proposal states, "The provision of an online content service to,

40 For a general and already dated approach to the issue, see in relation to copyright, from its first edition, A. and H.-J. Lucas, *Traité de droit de la propriété littéraire et artistique*, Litec, 1994, n° 995; compared to the most recent edition (A. and H.-J. Lucas and A. Lucas-Schloetter), 2012, n° 1392 s.). For more general references to transnational law, see above, note 29.

41 For example, several French courts declared unenforceable the jurisdiction clause drafted in favour of Santa Clara County and contained in the general terms and conditions of sale of a famous social network platform. See recently, Paris Court of Appeal, Pole 2 - Chamber 2, decision of 12 February 2016, accessible on www.legalis.net.

42 COM(2015) 627 final.

as well as the access to and the use of this service by, a subscriber […], shall be deemed to occur solely in the Member State of residence". This is what is called the portability of online content services. The consumer has a right to access the online content wherever they are in an EU Member State. They carry access to the content by way of a connection to it in their habitual territory of residence.

23. There are several ways in which this European legislative proposal could be read. In a fairly classical way, we could regard the text as defining for the subscriber of online content services a new criterion of connection to the national territory in which they normally reside, where traditionally priority is given to a connection to the territory of the place where the online content is accessed. The clear objective of the solution, which is similar to that for the satellite broadcasting and cable transmission of content[43], is for access to online content to be governed exclusively by the law of the subscriber's habitual country of residence. This then avoids regulatory obstacle caused by the subscriber's movement.

But there is more. By proposing this connection criterion, the Commission is seeking to translate the existence of a new territory into the rule of law.

24. To understand the revolution at work in the European regulation proposal, one must visualize the situation as it exists today and that which endeavours to define the new connection to the territory of the online content subscriber's habitual place of residence.

Currently, each time online content is protected by an intellectual property right (for example, copyright or a similar right), it is subject to an absolute principle of territoriality. For each national law territory, this principle states: access to online content in country A comes under law A and access to online content in country B comes under law B. This solution, solidly grounded in European private international law legislation[44] and strongly reaffirmed by the European Court of Justice[45], demonstrates that, in current positive law, online content accessible in country of connection A cannot be accessed in country of connection B. Other than taking out several subscriptions, each subject to a different law, the consumer only has access to online content from their habitual country of residence.

The European regulation proposal radically modifies this situation. It is clear that the proposal continues to connect the operation, here access to online content services, to a traditional institutional territory; that of a State. However, connection to the subscriber's habitual place of residence is a real revolution. The discontinuation of a strict criterion of territoriality and its replacement with a criterion founded on the stable localisation of the person of the subscriber confers on the latter the status of the seat of a new territory of access to online content. Through a fiction of law, the law is redesigning a space for accessing the technosphere by abandoning the actual place where the network was accessed and preferring a theoretical place defined by reference to the subscriber's habitual residence. The digital space is no longer fragmented as it is today between the multiple territories of network access. The digital space is represented in its European dimension by a connection to just one single territory. It is true that the solution does not have universal scope. It only applies in relation to the European territory because of a lack of an equivalent international regulation proposal, but it translates well the idea that a digital territory exists in the technosphere subject, for a determined operation - here access to online content services to which a consumer has subscribed in the European space - to a single legal regime.

This change of criterion severely disrupts the current model of the individual and collective management of copyright and related rights in the European space. It was not by coincidence that on the same day,

43 Directive 93/83/EEC on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission.

44 Regulation (EC) n 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to non-contractual obligations ("Rome II"), article 8.

45 See in particular: ECJ, 3 Oct. 2013, aff. C-170/12, Pinckney. For a general presentation on the principle of territoriality in the international and European context, see, with the various suggested references, J.-S. Bergé, *La protection internationale et européenne du droit de la propriété intellectuelle*, Larcier, 2015.

the Commission opened debate on a new European copyright framework[46].

25. This paradigm change, from the territory in which the content is accessed to the territory of the user's habitual residence, could lead to an even greater abstraction: the user's direct connection with the law of the digital platform and no longer just the law of a physical territory, whether that be the consumer's habitual residence, or that of access to the data.

This hypothesis is not fictitious[47]. Each time a platform defines a legal regime of large-scale availability by way of contract for content protected by an intellectual property law, it is creating conditions for the emergence of a global contract law that competes, whether we like it or not, with the other mass provisions that are not necessarily accepted by the conclusion of a prior contract. This is the case, for example, of non-voluntary licences subject to a system of compulsory legal remuneration managed on a collective basis. This law of a contractual nature is obviously not independent of any state or interstate law. However, its source is no longer the reference which, up until now, has been omnipresent in this area, that ofa strict territoriality of the applicable national law. The source is found in the digital territory, detached from the conventional institutional territories and with which it interacts in the same space: the datasphere.

The "datasphere" space is helpful because it can connect the action of the various players: one dealing with the situation by way of contract and the other intending to act by way of regulation. The two methods are not simply contrary or alternative. They take account, in the same space, of the coexistence of different territories, some traditional and others more recent.

2.3. The right to be delisted

26. The expression "right to be forgotten" describes very different legal situations depending on the legal context in question[48]. In the context of European Union law, this expression and its variants, the right to erasure or, specifically for the digital environment, the right to be delisted (the expression we use here), were created from two important recent developments. The first wasthe European Court of Justice's famous case *Google Spain* which, through a broad interpretation of the European directive on data protection and the European legal armoury for the protection of fundamental rights[49], consecrated a right to be delisted[50]. The second is based on the very recent adoption by the European legislator of what is known as the "Personal data protection package". Four years in discussion, an important regulation[51] is contained within this legisla-

46 COM(2015)626 final.

47 In the case envisaged here, we might include the agreements concluded by Googlebooks with the large number of editors all over the world. For caselaw developments across the Atlantic and in France, see respectively the chronicles of P. Kamina, Comm. com. electr. 2016, chron. 3, n° 4 and F.-M. Piriou, Comm. com. electr. 2010, study 11.

48 For an overall presentation in the national, international and European context, see these three recent publications: C. Castets-Renard (ed.). – *Quelle protection des données personnelles en Europe?*, Larcier, 2015, spéc. p. 9 s.; A. Grosjean (ed.), *Enjeux européens et mondiaux de la protection des données*, Larcier, 2015, spec. p 245 s.; A. Debet, J. Massot and N. Metallinos (ed.), *Informatique et Libertés. La protection des données à caractère personnel en droit français et européen*, Lextenso, 2015, spec. n 1576 s.

49 Articles 2, sub b) and d), 4, paragraph 1, sub a) and c), 12, sub b), and 14, para 1, sub a), of Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995, on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and article 8 of the Charter of Fundamental Rights of the European Union.

50 ECJ, 13 May 2014, C-131/12 : "articles 12, sub b), and 14, para 1, sub a), of Directive 95/46 are to be interpreted as meaning that, in order to comply with the rights laid down in those provisions and in so far as the conditions laid down by those provisions are in fact satisfied, the operator of a search engine is obliged to remove from the list of results displayed following a search made on the basis of a person's name links to webpages, published by third parties and containing information relating to that person, also in a case where that name or information is not erased beforehand or simultaneously from those webpages, and even, as the case may be, when its publication in itself on those pages is lawful" (§ 88). The Court of Justice made another decision on the subject (ECJ, 1 Oct. 2015, aff. C-230/14, Weltimmo) that submitted the circumstances to the law and authority of the Member State to which the data processing is directed.

51 Regulation (UE) 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, and repealing directive 95/46/EC (general data protection regulation).

tive package, the aim of which is to replace the protection regime defined by directive[52]. The text contains a provision specifically dedicated to the right to erasure, also called the "right to be forgotten"[53].

The *Google Spain* decision was followed up in France by the French data protection authority (CNIL). In a decision of March 2016[54], the authority decided to prosecute Google who, to conform to the interpretation given by the European Court on the data protection directive, proposed, on the one hand, to limit delisting to European extensions of its search engine and, on the other hand, to put filtering in place to guide European Internet users towards these European extensions to the search engine. The CNIL rejected these proposals[55] and Google announced its intention to appeal against its decision[56].

27. The issue of delisting is particularly complex. Implementation of the right to be forgotten in digital society raises completely different issues from its implementation in the pre-digital era. When a search engine allows access to pages containing references to a person, these pages can date back a relatively long time and, for example, may have been published in the press. Delisting consists of deleting references to such pages on the search engine. The problem is not the existence of the pages, but that they are easily accessible. The press organization could be held liable particularly if it has a search engine on its own pages or on the intermediation platform owning the engine. The legislator chose to allow legal action to be brought against the latter.

The *Google Spain* decision made by the ECJ has many consequences. The first is a transfer of jurisdiction from the public authorities or courts to the Google platform, which became responsible for receiving and processing delisting requests, assessing their acceptability and implementing them.

The second consequence, while deploring the lack of transparency of an engine with a secret algorithm, is that the delisting of hundreds of thousands of people-related pages might change the results of queries that have no relation to such people, therefore rendering the engine's functioning even more obscure.

The third consequence is the further consolidation of Google's power. By the simple fact that it receives requests for delisting, Google is benefitting from the non-solicited contribution of particularly sensitive information on persons within the European territory. In addition, if by its power, Google is in a position to establish such a service, its potential and smaller competitors will have to deal with an extra obstacle in order to come up against the giant.

28. Faced with this difficult situation, the informed consideration of the existence of a datasphere leads to two major observations that we cannot completely bypass.

The first observation relates to the fact that the datasphere has a memory that, from a practical point of view, is indelible. Data made available on the networks is immediately taken up by a multitude of servers in different physical locations. The rule of law can make access to the data in question more difficult. This is what the European mechanism of delisting provides. However, it cannot, as in the past with physical files, guarantee that the data is destroyed outright. This fact does nothing other than to confirm the existence of a datasphere encompassing all territories. A law-producing territory must know that it is ignorant of a large part of the developments in the environment it operates within. This does not mean that it should not act or is powerless to act. It simply means that it cannot ignore the limitation to which it is subject and which makes the deletion of undesirable information difficult and, in this case, impossible.

This first observation leads on to a second. Lawyers cannot operate in the datasphere without serious reflection on the spatial dimension of their legal constructions. This is a crucial point for their processing of

52 Directive 95/46/EC, prec.

53 Art. 17 of Regl. (EU) 2016/679.

54 Deliberations in restricted formation n 2016-054 of 10 March 2016 imposing a financial penalty against Google Inc.

55 The decision can be accessed at: https://www.cnil.fr/sites/default/files/atoms/files/d2016-054_sanction_google.pdf

56 Information made public via various media in May 2016. For example: http://www.lemonde.fr/pixels/article/2016/05/19/droit-a-l-oubli-google-contest-les-demandes-de-dereferencement-mondial-de-la-cnil_4922602_4408996.html

the situation. Due to its severe practical limitations, the confirmation of a law with no territorial limitation, which in practical terms is unsustainable in the long term. The situation must be reconsidered in light of the datasphere and the institutional or, as the case may be, new territories that are shaping it. In relation to the institutional territories, specific criteria must be used to identify situations falling within the jurisdiction of European inspection authorities on rules for data, as opposed to situations that do not. For the new territories, consideration must be given as to which technical resources could be implemented to define such territories within the datasphere for European situations. All of these discussion subjects are well-known and have been written about at length[57]. The proposal put forward by Google along these lines could certainly be improved. On the other hand, the CNIL's position to impose global delisting solely on the grounds that the network is global, lacks any feasible basis.

2.4. The transatlantic transfer of personal data

29. The famous *Schrems* case of the European Court of Justice[58] is final example that illustrates the emergence of this new reality, the datasphere, in international and European law.

The *Schrems* case concerns the sensitive issue of the transatlantic transfer of personal data. In this case, the European court decided to nullify a European Commission decision[59], holding that a third State, the United States, did not comply with European data protection requirements. It held that that the personal data exported to third countries regarded as safe harbours did not benefit from the same level of protection as the favourable European regime. Significant in various respects[60], this case fits with our general perspective of the datasphere.

30. The cross-border flows of data are indeed an inherent element for a data space. It goes without saying that such flows largely, if not totally, exceed the frameworks in place in the conventional institutional territories. The States' territorial framework, like the territorial framework of a regional organization such as the European Union (EU), cannot relate to the actual geographical framework of the data flows unless the Internet is balkanized, which Western countries and Europe have always refused to accept. In these conditions, one can not claim to be able effectively to control data flows to external borders of the European territory. In a single movement, in a single space, the datasphere carries these data flows away, making it impossible for them to return within the borders.

The issue at stake in the *Schrems* case is therefore not so much theflows of data as the territory in which a lawyer examines the conditions of any use of personal data. The study subject is indeed the global flows of data but it can be examined in different ways from either side of the Atlantic. In its decision, the Commission considered that the American legal system could guarantee an adequate level of protection. The Court of Justice revoked this view and to a certain extent repatriated this assessment to within the European legal territory.

31. Beyond this analysis, an important shift is occurring. The traditional approach would be to examine flows of data in terms of the effective control of their movement between the various traditional institutional territories. The newer approach, importantly, focuses not so much on the control of movement within the datasphere as the distribution of jurisdiction between the various institutional territories capable of controlling the legal processing of data.

We are therefore in the presence of two competing approaches. The first is the classic thinking where the

57 See on this theme, with the many suggested bibliographic references, O. Tambou, *Protection des données personnelles : les difficultés de la mise en œuvre du droit européen au déréférencement*, RTDE 2016, 249.

58 ECJ, gde ch., 6 Oct. 2015, Schrems, C-362/14.

59 Decision 2000/520/CE of the Commission, of 26 July 2000) taken in application of this directive with a view to authorising the general transfer of personal data to a third country (the United States) considered as affording "an adequate level of protection" (art. 25 § 6 of Directive 95/46/EC) for such data.

60 For an analysis of the decision in terms of the non-equivalence of European and American protection of personal data, see our column with S. Touzé on the Interactions of European and International law, JDI 2016, n° 3,983.

rule of law denies the datasphere by claiming it can control data flows. The second is the new view where the rule of law accepts there the existence of the datasphere and does its best to identify the effective control points for processing the data flows.

Establishment of a "datasphere" space would also improve understanding of the developments in the environment of data flows. As in the above examples, the datasphere moves the core of analysis in international and European law. The question is not so much knowing whether the data can or cannot move between the traditional institutional territories. The crucial issue is to determine on which territories that movement should be considered for legal purposes.

The territories with competent jurisdiction are not determined in a neutral and objective manner, according to the movement perimeter and its localisation, because the presumption is that movement is total. They must instead be determined by a political will either to understand a phenomenon of widespread movement on one's territory.

32. Most often, it will be for the traditional institutional territories where each State, each world region, is invited to define its scope of action, either alone or in cooperation with others. However, new players, located on new territories, may also have their own role to play. This is the direction in which the new arrangement known as the *EU-US Privacy Shield*[61], currently in the process of adoption, is striving to move by giving companies handling transatlantic data flows a mechanism of self-certification.

However, in the same way as its predecessor, this arrangement will not be capable of preventing the full movement beyond control[62] of personal data. Neither will it dispel discussion on whether data exchange should be controlled at European level or whether it can be validly delegated to players established in the new territories[63].

33. The "datasphere" is a phenomenon existing in the technosphere, which the law could seek to understand as a new space. It is marked by two types of territory: old and new. This space offers a framework for legal analysis necessary for understanding the new relationships developing with these territories. An overarching notion, the datasphere allows this new space to be defined holistically. It does not challenge, or even compete against the other spaces. It opens up the legal field of investigation to a new reality nowadays present in all areas of human activity.

61 The Commission's decision endorsing this arrangement adopted the 12 July 2016 can be accessed via this link: http://ec.europa.eu/justice/data-protection/files/privacy-shield-adequacy-decision_en.pdf

62 See this theme of "full circulation beyond control and the law", at http://www.universitates.eu/jsberge/?p=21027

63 See the analysis put forward on this point by S. Peyrou on the GDR CNRS ELSJ blog in Feb. 2016: http://www.gdr-elsj.eu/2016/02/14/droits-fondamentaux/transfert-de-donnees-personnelles-de-lue-vers-les-etats-unis-du-safe-harbor-a-l-eu-us-privacy-shield-reel-epilogue-ou-simple-peripetie/

Para publicar na revista Brasileira de Políticas Públicas, acesse o endereço eletrônico www.rbpp.uniceub.br
Observe as normas de publicação, para facilitar e agilizar o trabalho de edição.