Re-conceptualizing the Global Digital Divide

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Abstract: The article seeks a re-conceptualization of the global digital divide debate. It critically explores the predominant notion, its evolution and measurement, as well as the policies that have been advanced to bridge the digital divide. Acknowledging the complexity of this inequality, the article aims at analyzing the disparities beyond the connectivity and skills barriers. Without understating the first two digital divides, it is argued that as the Internet becomes more sophisticated and more integrated into economic, social, and cultural processes, a “third” generation of divides becomes critical. These divides are drawn not at the entry to the net but within the net itself, and limit access to content. The increasing barriers to content, though of a diverse nature, all relate to some governance characteristics inherent in cyberspace, such as global spillover of local decisions, regulation through code, and proliferation of self- and co-regulatory models. It is maintained that as the practice of intervention intensifies in cyberspace, multiple and far-reaching points of control outside formal legal institutions are created, threatening the availability of public goods and making the pursuit of public objectives difficult. This is an aspect that is rarely addressed in the global digital divide discussions, even in comprehensive analyses and political initiatives such as the World Summit on the Information Society. Yet, the conceptualization of the digital divide as impeded access to content may be key in terms of ensuring real participation and catering for the long-term implications of digital technologies.

Keywords: Global Digital Divide; Access to Content, Cyberlaw

A. Introductory Remarks

1 Closing the digital gap has been viewed in all discourse flows as unambiguously positive and of primary importance. Especially in the initial years of the discussions on the digital divide, there seemed to have been a broad understanding that

   active participation in the information revolution will promote a country’s economic development [...] [and that] the Internet and new communications technologies offer the less developed countries unprecedented opportunities to acquire knowledge, “enhance educational systems, improve policy formation and execution, and widen the range of opportunities for business and the poor.”

2 Beyond economic development, it is also often maintained that bridging the global digital divide

   “would facilitate the flow of information that helps subvert authoritarian and repressive governments, thus promoting democracy, human rights,
The digital divide amplifies the already existing social inequalities cumulatively. An important experience of developed countries is that the problem of the digital divide persists even in periods when ICT penetration in society is high, since new technologies and tools (e.g., broadband, mobile devices, Web 2.0, etc.) enter the markets, generating new lines of division. 

Second, with regard to policy design, it has been acknowledged that there exist no “one-size-fits-all” solutions, as developing countries have proved to be profoundly diverse with starkly different economic, social, and institutional conditions and technology adoption patterns. Accordingly, the measures for bridging the global digital divide are now much more pragmatic. They are targeted at specific goals and use tailor-made tools that are meant to provide not only one-off aid but also conditions for sustainable access to information, which go far beyond cheap computers to involve local capacity-building and deeper social and institutional reforms.

6 While most of these initiatives would fall under the category of development aid, it must be stressed that the role of law, in particular international economic law, although not directly targeted at the digital divide, has been significant in reducing the entry thresholds to cyberspace. International trade rules have contributed by addressing broader economic concerns of dismantling barriers to trade, liberalization of markets and spurring competition, foreign direct investment and private–public partnerships. Here, it is essential to understand that the digital divide issues cannot be isolated and disconnected from other policy domains such as telecommunications and media regulation, standardization, trade in networked goods and services, intellectual property, or competition policy, and there is a strong need to “view these issues in a more holistic manner – as elements of a single overarching policy space rather than as a random assortment of disconnected topics that are somehow related to ICT.”

B. Beyond the “First” Divide

7 Over the years, diverse points of critique have targeted different aspects of the existing initiatives aimed at bridging the digital divide. It is, for instance, often maintained that very few of the ICT for development (ICT4D) initiatives have worked in practice; that the neo-liberal paradigm that underlies the WSIS is misplaced and there is no real (financial) commitment from developed countries; that the WSIS process has in fact achieved little and has abandoned its higher objectives. The critique we develop in the following sections is somewhat different. We argue that as digital technologies advance and as the institutional ecology of the networked digital environment evolves, attention should be shifted from access to technology to access to content.

I. The Many Divides

8 To be sure, the focus so far has been predominantly on simple Internet access, i.e., on the practical possibility of opening a web page and surfing the net...
through a device (be it a computer, mobile phone, TV set, or game console). In the early discussions, this – let us dub it the “first” divide – was thought sufficient to becoming a citizen of the information society, and it was envisaged that the positive economic and social spillovers of being linked to the Internet, as sketched above, would somehow automatically unfold.

9 Connectivity, however, is nothing but the first tier. As the Internet becomes ubiquitous and penetrates all facets of contemporary societal life, new and different tiers of division and discrimination seem to emerge. In the national context of industrialized countries, experience shows that what was considered the original digital divide is largely resolved [...]. Today the digital divide resides in differential ability to use new media to critically evaluate information, analyze, and interpret data, attack complex problems, test innovative solutions, manage multifaceted projects, collaborate with others in knowledge production, and communicate effectively to diverse audiences – in essence, to carry out the kinds of expert thinking and complex communication that are at the heart of the new economy.  

10 “Whereas the first digital divide could be solved simply by providing a computer and an Internet connection, this [second] digital divide presents a greater challenge.” It relates to skills, broadly defined as a set of multifaceted capabilities to efficiently and effectively navigate in cyberspace, to create, contribute, and distribute content. The level of sophistication of these skills becomes critical to ensure real participation, as users’ behavior studies as well as the acts of mobilizing communities in the recent Arab revolutions show.

11 Developing countries have already been disadvantaged as latecomers in the evolving process of building the information society, both in terms of participation and representation. Internet governance is a clear example of influencing cyberspace’s architecture in the early stages, and the subsequent hard-fought attempts of developing countries to become part of the decision-making processes are also revealing. In terms of representation and further-reaching implications, as Mark Cooper argues, 

[t]his is a vicious cycle. If a particular cultural group is not represented early in the creation of the medium, culturally relevant applications of technology and content do not get produced for that group. Since there are not as many culturally relevant applications of the technology, members of that group tend to adopt the technology more slowly. Having the technology now versus having the technology later is the difference between being a passive consumer and being an engine and driver of the medium. Being there when the architecture is defined means one’s needs and demands will be reflected in the face of the new medium.  

12 Admittedly, with the greater sophistication of the digital divide debates over time, this second “skills” tier of separation has also gained prominence and increasingly more suitable tools have been implemented to address it. This is important and is consistent with the “capabilities approach” as put forward by Amartya Sen and Martha Nussbaum, and with Sen’s seminal argument for “development as freedom,” intertwining issues of social justice and human rights with the objective of generating economic growth.

13 In this article, however, the aim is to thematize a third division, which is to be understood as a process of drawing new digital divides and happens in cyberspace.

II. The Digital Divide as Impeded Access to Content

14 The multifaceted and further-reaching repercussions of cyberspace have already been well explored, though their effects are not definitive as digital technologies advance, become more deeply integrated in all facets of society, and as novel implications unfold. Despite this uncertainty and the intrinsic incompleteness of the process, it is now common to talk of a decidedly new information and communication environment and even of a “fourth revolution in the means of production of knowledge, following the three prior revolutions of language, writing, and print.”

15 At the center of this grand metamorphosis is content, taken broadly in the sense of words, sounds, moving and still images, which due to digitization are now all expressible in the same “language” of binary digits, of zeroes and ones. It is content that is the driver of digital infrastructures, technology, and services, of new business and consumer behavior patterns, and not the other way around, as was believed at the outset of the digital revolution, when the business and policy mantra went along the lines of “build them and they will come” and concentrated all efforts on laying cables and infrastructure. However, content should not be understood here as a static database, but as a dynamic process of producing, distributing, accessing, mixing, and consuming information, of creating and expressing culture.

16 When talking about content, a few characteristics of the new digital space appear particularly criti-
Internet filtering is not only state censorship *stricto sensu*, but the manner of exercising control varies in practice.

*Sometimes the law bans citizens from performing a particular activity online, such as accessing or publishing certain material. Sometimes the state takes control into its own hands by erecting technological or other barriers within the state’s confines to stop the flow of bits from one recipient to another. Increasingly, though, the state is turning to private parties to carry out the online control. Often, those private parties are corporations charted locally or individual citizens who live in that jurisdiction.*

17 Government censorship has long been common practice and is relatively well reflected in the policy discussions. So, while in 1998 then US President Bill Clinton spoke of the “revolutionary democratization potential of the Internet,” in 2010, Hillary Clinton, as the Secretary of State, stresses that, “[e]ven as networks spread to nations around the globe, virtual walls are cropping up in place of visible walls.” It is a reality that, despite all the talk about the Internet’s ability to “route around” censorship, many governments (and not only undemocratic ones) have proven adept at extending state control into cyberspace for a variety of reasons, such as public morality, cultural integrity, and political control.

18 Internet filtering is not only state censorship *stricto sensu*, but the manner of exercising control varies in practice.

19 As Palfrey further explicates, it is now often the case that the state “requires private parties – often intermediaries whose services connect one online actor to another – to participate in online censorship and surveillance as a cost of doing business in that state.”

20 The evolutionary trajectory of Internet filtering is evident, moving toward more and more sophisticated control mechanisms. As Palfrey notes, we experience a shift from “open net” (from the Internet’s birth to 2000) through “access denied” (2000–2005), where crude filters and blocks were installed, toward “access controlled” (2005 onward), where mechanisms are multiple and varied, entering at different points of control to limit access to knowledge and information.

2. Privatization of Content

21 The privatization of content seen as a broad phenomenon is another well-known example of limiting access. In cyberspace, this phenomenon can be said to have assumed different dimensions. First and perhaps most important in terms of law’s function is the impact of intellectual property (IP).

22 As the (almost classical now) critical argument goes: while the contemporary IP architecture has evolved over time and elaborated a broad palette of sophisticated and flexible tools “to protect both traditional and new forms of symbolic value produced in particular places as they circulate in global commodity markets,” it is far from perfect. Some of the IP system’s deficiencies relate to the inherent centrality of authorship, originality, and mercantilism to the “Western” IP model, which leaves numerous non-Western, collaborative, or folkloric modes of production outside the scope of IP protection. As a result, many expressions of traditional culture are without a protective shield, laying them open to misappropriation and abuse, and leaving the communities that created them without an appropriate economic reward. In a contemporary context, under the conditions of the digital environment, there are very often efforts of commons-based production of information, knowledge, and entertainment, where “individuals band together, contributing small or large increments of their time and effort to produce things they care about” not protected by copyright.

23 The second reason for IP’s imperfections has to do with the way IP rights are granted, whereby authors receive a temporary monopoly over their creations and thus exclude the rest of the public from having access to the protected works. The balance between private and public interests is critical in this exercise. In the digital ecology, however, it may be under serious threat: on the one hand, because the Internet has magnified the value of copyright law and expanded its reach; on the other hand, because the existent models are often too rigid to allow full realization of digital content production and distribution, or render them illegal, possibly significantly chilling creative activities and creative potential.

24 The balance between authors’ rights and the public interest in having access to information becomes all the more fragile as it is now common that authors’ rights are “assigned away to the distributor of the
work in order to gain access to the channels of distribution and their audience, and these distributors (normally big media conglomerates) have been the ones who set the terms and determine which works are made available to the public, thus exercising substantial control over existing cultural content. In addition, under the conditions of digital media, intermediaries have striven to keep perfect control over “their property” by means of Digital Rights Management (DRM) systems and other technological protection measures, which under the guise of protecting digital content from uncontrolled distribution and unlawful use, have had pernicious effects, eroding some fundamental rights of consumers and restricting usages traditionally allowed under (analogue/offline) copyright.

The content industries have also been very successful in their political efforts to expand the scope and extend the duration of copyright, effectively convincing most governments that strong and enforceable IPRs are the sine qua non for a vibrant culture. Through race-to-the-top strategies, this augmented protection has been emancipated to the international level. For instance, they do not appear in any measurable way in the 2005 UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions, nor do they figure on the WSIS agenda.

The second (not strictly IP-related) dimension of privatizing content in cyberspace can in fact encompass many different cases, where access to content becomes conditional on a payment. Privileged access to scientific data and knowledge, entertainment, news, and archives creates a deep divide, with various implications, between those who can afford to pay and those who cannot. In the discussions of net neutrality and search engines, one can also see elements of the creation of two-tier environments, where against additional payment, one gets either faster access to data and traffic or becomes more visible on the web. Particularly important in all these contexts is that local content and creativity of individuals and groups based in developing countries may be marginalized and thereby chilled.

C. Governing Cyberspace/Enabling Control

There were two myths of cyberspace governance. The first was that cyberspace is unregulated and the second that cyberspace cannot be regulated. The former was in fact never true as even in the initial stages of the emergence of cyberspace, many of the “analogue/offline” rules at national, regional, and international levels applied to the Internet as a global network of networks and to the World Wide Web. Yet it is true that as governments grappled with the novelty of the medium, “up until the late 1990s, most states tended either to ignore online activities or to regulate them very lightly,” especially in comparison with “old” media like telecom and television.

This changed, however, and as the Internet became intertwined with everyday life and as its economic, political, social, and cultural importance grew exponentially, states increasingly intervened. They thus dispelled the second myth and effectively erected a variety of digital walls, translating many of the real-space national and international policies into cyberspace. What we have seen emerging from the ashes of these two myths of cyberspace regulation is a type of “messy” governance, where a “governance mix” encompassing national and international efforts, as well as private and public–private initiatives, defines the regulatory conditions. This governance ecology has not yet attained its ultimate shape and form but is still in flux. Two evolutionary trends can be stressed with regard to our discussion. The first relates to Lawrence Lessig’s narrative of “code is law,” while the second brings together observations on models of self- and co-regulation in cyberspace.
1. From Law to Code

32 Lessig argued that in cyberspace, code is overtaking the functions of law.64 In contrast to real space, where architecture is more or less given, in cyberspace it is “plastic” and open to change.65 Designing cyberspace through software code thus becomes a very powerful regulatory activity.66 This code, which Lessig calls “West Coast Code” (because of its proximity to Silicon Valley), is starkly different from the “East Coast Code” (so named because of its proximity to Washington, DC). The latter encompasses laws as a product of the conventional legislative processes, which in a democratic state involve highly formalized and complex mechanisms and are subject to a system of checks and balances.67 West Coast Code, by contrast, is simply embedded in the software; it is cheaper and faster to create but also opaque and often not “readable” for citizens. The experience gained over the last 11 years68 clearly confirms Lessig’s theory and the move from law toward code in creating mechanisms of control in cyberspace. Both governments and corporations69 have enabled and fostered this move. The above-mentioned example of DRM systems is illustrative here as well, as these in-built technical protection measures allow constraints on behavior and use to be imposed more easily and to a greater extent than through copyright law alone.

2. Emerging Self- and Co-regulation in Cyberspace

33 As noted above, cyberspace governance is “messy” and the role of private actors pivotal. However, as almost all actions taken do have global effects, companies increasingly needed to cooperate within different organizational structures and with varying level of state involvement. There is now clearly manifest practice of these hybrid types of regulation in cyberspace encompassing different forms of self- and co-regulation.70 Global Internet standards (e.g., Internet Engineering Task Force;71 World Wide Web Consortium72), domain names (ICANN73), content filtering and rating (e.g., PEGI Online74 and the Global Network Initiative75) are a few of the key areas where such hybrid governance evolves.76

34 These models are often very appropriate to address the pertinent specific (and highly technical) questions. Yet because efforts of self- and co-regulation arise and/or operate at least partially outside state control, they are not necessarily designed to advance particular public objectives. They also often rely on voluntary (and self-interested) participation and compliance, which differentiates their command of resources, scope, and effectiveness from those of similar formal regulatory initiatives. As they do not have exclusive power within an integrated legal framework, they may also face competition from other self-regulatory, co-regulatory, and formal regulatory bodies, or have to cope with patchy legal underpinnings across their geographical sphere of activity.77

35 In presenting both these regulatory trends in the context of the digital divide discussion, our prime aim is to illustrate that in cyberspace there are multiple and far-reaching points of control outside formal legal institutions, and that governance is complex and highly fragmented, thus threatening the availability of public goods and making the pursuit of public objectives difficult. Law has been in many ways discounted because it has not kept pace with the technological advances or because it cannot efficiently address them.

D. Conclusion

36 Without understating the first two digital divides (which remain essential for reaching the third),78 we argue that as the Internet becomes more sophisticated and more integrated into economic, social, and cultural processes, a “third” generation of divides becomes critical. These divides are drawn not at the entry, at the “opening gate” to the net, but within the net itself.

37 The conceptualization of the digital divide as impeded access to content (from the supply side) may be more important in terms of ensuring real participation and catering for the long-term implications of the integration of digital technologies into all facets of societal life. This is an aspect that is rarely addressed, even in comprehensive analyses and political initiatives such as the WSIS. There are critical governance choices to be made influencing the interplay of public versus private regulation, open versus closed technologies, and competitive versus collusive markets that need to be considered in the global digital divide debates.

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2 Yu, ibid., at pp. 24–25.


4 WSIS, Tunis Agenda for the Information Society, WSIS-05/TUNIS/DOC/6(Rev. 1)-E, 18 November 2005.

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8 Ibid.


10 UNESCO, supra note 6, at p. 16.

11 “It must be acknowledged that no linear relationship exists between single technologies, technology trends, market and societal deployment of these technologies and socioeconomic outcomes or impacts. The technologies interact among themselves and their deployment and ability to deliver impacts are determined by market forces, cultural factors, and pertaining governance structures, which shape demand and can determine technology lock-ins and break-outs.” J. Cave et al., Trends in Connectivity Technologies and Their Socioeconomic Impacts, study prepared for the European Commission (Cambridge: RAND Europe, 2009), at p. iii.


14 Drake and Jørgensen, supra note 5, at p. 3.


17 Drake and Jørgensen, supra note 5, at pp. 28–29.


20 Warschauer and Matuchniak, ibid., at p. 213. The authors suggest five steps that can be taken to help meet the challenge of the “second” digital divide, which relate to individual access, curriculum and instruction, standardized assessment, out-of-school media programs, and research.


32 Warschauer and Matuchniak, supra note 19, at pp. 179–180.

33 In the sense that building the necessary infrastructure is the only and primary prerequisite for ensuring participation in the information society.


35 Benkler, supra note 31.


40 Ibid.

41 J. Palfrey, “Four Phases of Internet Regulation,” Berkman Center for Internet and Society Research Publication 9 (2010), pp. 1–22; see also Deibert et al. (2010), supra note 38, Palfrey goes on to argue that we are now moving into a fourth stage in the evolution of Internet filtering, the so-called “access contes-
Under IP rights as a general category, one understands the rights granted to creators and inventors to control the use made of their productions. They are traditionally divided into two main branches: (i) "copyright and related (or neighbouring) rights" for literary and artistic works and (ii) "industrial property," which encompasses trademarks, patents, industrial designs, geographical indications, and the layout designs of integrated circuits. We discuss here primarily the first category.

For instance, in online games and virtual worlds, the existing IP models cannot adequately capture modes of collaborative production (such as game upgrades, maps, original video, and films) and leave them at the mercy of the commercial companies owning the platform, who may extract substantial financial benefit from the individuals’ and communities’ creative work, or may even ban the production and distribution of their expressions. See M. Burri-Nenova, "User Created Content in Virtual Worlds and Cultural Diversity," in C. Graber and M. Burri-Nenova (eds.), Governance of Digital Game Environments and Cultural Diversity: Transdisciplinary Enquiries (Cheltenham, UK: Edward Elgar, 2010), pp. 74–112.

While the final Tunis documents make several references to access, they mainly define it as access to infrastructure. Four points mention cautiously the "numerous challenges" for "expanding the scope of useful accessible information content" (para. 15); "improving access to the world’s health knowledge and telemedicine services" (para. 90(g)) and "agricultural knowledge" (para. 90(i)); and "supporting educational, scientific, and cultural institutions, including libraries, archives and museums, in their role of developing, providing equitable, open and affordable access to, and preserving diverse and varied content, including in digital form, to support informal and formal education, research and innovation" (para. 90(k)). E. Mertens, "Intellectual Property Issues Kept Off WISI Agenda," Intellectual Property Watch, 30 November 2005.


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For detailed case studies, see C. Marsden et al., Options for and Effectiveness of Internet Self- and Co-Regulation, Phase 2: Case Study Report (Cambridge: RAND Europe, 2008).

Cave et al., supra note 70, at pp. xii–xiii.

Benkler, for instance, thinks of the digital divide as a “transitional problem.” Benkler, supra note 31, at p. 237.