# INTERNATIONAL JOURNAL OF DIGITAL AND DATA LAW

### REVUE INTERNATIONALE DE DROIT DES DONNÉES ET DU NUMÉRIQUE



Vol. 4 - 2018





### International Journal of Digital and Data Law Revue internationale de droit des données et du numérique

### Direction: Irène Bouhadana & William Gilles

ISSN: 2553-6893

#### **IMODEV**

49 rue Brancion 75015 Paris – France www.imodev.org ojs.imodev.org

Les propos publiés dans cet article n'engagent que leur auteur.

The statements published in this article are the sole responsibility of the author.

### Droits d'utilisation et de réutilisation

Licence Creative Commons - Creative Commons License -



Attribution

Pas d'utilisation commerciale – Non Commercial

Pas de modification – No Derivatives



### À PROPOS DE NOUS

La Revue Internationale de droit des données et du numérique (RIDDN)/ the International Journal of Digital and Data Law est une revue universitaire créée et dirigée par Irène Bouhadana et William Gilles au sein de l'IMODEV, l'Institut du Monde et du Développement pour la Bonne Gouvernance publique.

Irène Bouhadana, docteur en droit, est maître de conférences en droit du numérique et droit des gouvernements ouverts à l'Université Paris 1 Panthéon-Sorbonne où elle dirige le master Droit des données, des administrations numériques et des gouvernements ouverts au sein de l'École de droit de la Sorbonne. Elle est membre de l'Institut de recherche juridique de la Sorbonne (IRJS). Elle est aussi fondatrice et Secrétaire générale de l'IMODEV.

William Gilles, docteur en droit, est maître de conférences (HDR) en droit du numérique et en droit des gouvernements ouverts, habilité à diriger les recherches, à l'Université Paris 1 Panthéon-Sorbonne où il dirige le master Droit des données, des administrations numériques et des gouvernements ouverts. Il est membre de l'Institut de recherche juridique de la Sorbonne (IRJS). Il est aussi fondateur et Président de l'IMODEV. Enfin, il est avocat au barreau de Paris.

**IMODEV** est une organisation scientifique internationale, indépendante et à but non lucratif créée en 2009 qui agit pour la promotion de la bonne gouvernance publique dans le cadre de la société de l'information et du numérique. Ce réseau rassemble des experts et des chercheurs du monde entier qui par leurs travaux et leurs actions contribuent à une meilleure connaissance et appréhension de la société numérique au niveau local, national ou international en en analysant d'une part, les actions des pouvoirs publics dans le cadre de la régulation de la société des données et de l'économie numérique et d'autre part, les modalités de mise en œuvre des politiques publiques numériques au sein des administrations publiques et des gouvernements ouverts.

IMODEV organise régulièrement des colloques sur ces thématiques, et notamment chaque année en novembre les *Journées universitaires sur les enjeux des gouvernements ouverts et du numérique / Academic days on open government and digital issues*, dont les sessions sont publiées en ligne [ISSN: 2553-6931].

IMODEV publie deux revues disponibles en open source (ojs.imodev.org) afin de promouvoir une science ouverte sous licence Creative commons\_CC-BY-NC-ND:

- 1) la Revue Internationale des Gouvernements ouverts (RIGO)/ International Journal of Open Governments [ISSN 2553-6869];
- 2) la Revue internationale de droit des données et du numérique (RIDDN)/International Journal of Digital and Data Law [ISSN 2553-6893].



### **ABOUT US**

The International Journal of Digital and Data Law / Revue Internationale de droit des données et du numérique (RIDDN) is an academic journal created and edited by Irène Bouhadana and William Gilles at IMODEV, the Institut du monde et du développement pour la bonne gouvernance publique.

Irène Bouhadana, PhD in Law, is an Associate professor in digital law and open government law at the University of Paris 1 Panthéon-Sorbonne, where she is the director of the master's degree in data law, digital administrations, and open governments at the Sorbonne Law School. She is a member of the Institut de recherche juridique de la Sorbonne (IRJS). She is also the founder and Secretary General of IMODEV.

William Gilles, PhD in Law, is an Associate professor (HDR) in digital law and open government law at the University of Paris 1 Panthéon-Sorbonne, where he is the director of the master's degree in data law, digital administration and open government. He is a member of the Institut de recherche juridique de la Sorbonne (IRJS). He is also founder and President of IMODEV. He is an attorney at law at the Paris Bar.

**IMODEV** is an international, independent, non-profit scientific organization created in 2009 that promotes good public governance in the context of the information and digital society. This network brings together experts and researchers from around the world who, through their work and actions, contribute to a better knowledge and understanding of the digital society at the local, national or international level by analyzing, on the one hand, the actions of public authorities in the context of the regulation of the data society and the digital economy and, on the other hand, the ways in which digital public policies are implemented within public administrations and open governments.

IMODEV regularly organizes conferences and symposiums on these topics, and in particular every year in November the Academic days on open government and digital issues, whose sessions are published online [ISSN: 2553-6931].

IMODEV publishes two academic journals available in open source at ojs.imodev.org to promote open science under the Creative commons license CC-BY-NC-ND:

- 1) the International Journal of Open Governments/ la Revue Internationale des Gouvernements ouverts (RIGO) [ISSN 2553-6869];
- 2) the International Journal of Digital and Data Law / la Revue internationale de droit des données et du numérique (RIDDN) [ISSN 2553-6893].



## POLITICAL CAMPAIGNS IN AN INTERNET ERA

by **Russell L. WEAVER**, Professor of Law & Distinguished University Scholar, University of Louisville, Louis D. Brandeis School of Law\*.

ommunications technologies have evolved dramatically over the centuries<sup>1</sup>. Before Johannes Gutenberg's invention of the printing press in the fifteenth century, people communicated primarily through oral or hand-written means; processes that were slow and not conducive to mass communication<sup>2</sup>. The Gutenberg printing press enabled printers to create multiple copies of documents, and led to the widespread dissemination of ideas and information<sup>3</sup>. Ultimately, the press contributed to dramatic societal transformations, including the Renaissance, the Scientific Revolution, and the Protestant Reformation<sup>4</sup>. After Gutenberg's invention, communications technologies remained relatively stagnant for many centuries<sup>5</sup> until electricity was harnessed in the nineteenth century<sup>6</sup>. Electricity had an equally profound impact on communication because it made it possible for information to move much more

<sup>\*</sup> Professor Weaver wishes to thank the Dean's Faculty Scholarship Development Fund for funding the research related to this article and the speech associated with it.

<sup>&</sup>lt;sup>1</sup> See R. L. WEAVER, From Gutenberg to the Internet: Free Speech Advancing Technology and the Implications for Democracy (2013) (hereafter "From Gutenberg to the Internet").

<sup>&</sup>lt;sup>2</sup> See I. FANG, A History of Mass Communication: Six Information Revolutions 40 (1997) (hereafter "A History of Mass Communication").

<sup>&</sup>lt;sup>3</sup> See From Gutenberg to the Internet, supra note 1, at 4 ["Before Gutenberg, written works were created by hand, a process that was extremely slow, and only a small number of people (usually monks) could devote the time needed to create books (much less, multiple copies of books)"].

<sup>&</sup>lt;sup>4</sup> See R. LASSO, From the Paper Chase to the Digital Chase: Technology and the Challenge of Teaching 21st Century Law Students, 43 SANTA CLARA L. REV. 1, 4 n.2 (2002) ("Printing changed every aspect of the human condition--from thinking, learning, and language, to science, religion, and government". "The 17th century became known as 'the century of genius' in large part due to the explosion of creativity and new ideas fueled by printing. Creativity is often the result of a combination of intellectual activities. For example, reading two books on separate topics and combining their themes in one mind produces a creative interaction. Increased output of printed works led first to the combination of old ideas, and later to the creation of entirely new systems of thought."); G. PAUL, J. BARON, Information Inflation: Can the Legal System Adapt?, 13 RICH. J. L. & TECH. 1, 8 (2007) ("There has been only one transformative advance in the original writing technology. Circa 1450 Johannes Gutenberg invented the movable type printing press, which dramatically lowered the cost of producing written records. The printing press allowed mass production of information and thus contributed to the Renaissance, the Scientific Revolution, and the Protestant Reformation.").

<sup>&</sup>lt;sup>5</sup> See A History of Mass Communication, supra note 2, at 47 ("It would seem reasonable that the burst of technology that gave western Europe and then the world a system of printing would continue its pace of invention and innovation to meet the excited demand. Yet, between 1450 and 1800 surprisingly little changed in the printing industry. Printers continued to set type by hand. A typical screw press impressed no more than 100 to 150 sheets of paper an hour. At the start of the Industrial Revolution, printing was done much as it had been accomplished in Gutenberg's day.").

<sup>&</sup>lt;sup>6</sup> See D. CROWLEY & P. HEYER, Communication in History: Technology, Culture, Society 118 (5th ed. 2007) (hereafter "Communication in History").



quickly than people could move<sup>7</sup>, and led to an explosion of new technologies, including the telegraph<sup>8</sup>, radio<sup>9</sup>, television<sup>10</sup>, and eventually satellite communications<sup>11</sup> and the internet<sup>12</sup>.

Despite revolutionary advances in speech technologies, mass communication was tightly controlled for centuries<sup>13</sup>. Throughout history, governments have tried to restrict or control communication through tactics such as the imposition of prior restraints<sup>14</sup>, including content licensing<sup>15</sup>, as well as through criminal prosecutions for seditious libel<sup>16</sup>, Even when the government was not censoring or repressing speech, not uncommonly private individuals exercised control over the means of communication. Since most speech technologies were expensive to own and operate, not everyone could own or operate the means of communication. Even Benjamin Franklin, who was famous as a printer, among other things, struggled for a long time to acquire the means to purchase a printing press<sup>17</sup>. Because of their cost, most communication technologies (including the printing press, telegraph, radio, television and satellites) were owned by a small number of rich people who controlled access to those technologies<sup>18</sup>. As a result, advances in speech technology did not necessarily make it possible for ordinary people to engage in mass communication.<sup>19</sup> Media moguls could favor the stories and political positions that they preferred<sup>20</sup>.

This article examines how the internet has reshaped communication in the political sphere. As we shall see, the internet has dramatically altered the ability of ordinary people to

<sup>&</sup>lt;sup>7</sup> Whereas it had previously taken as long as 10 days to send a message across the U.S., it now became possible to do so in a matter of seconds. *See* Tom Standage, *Telegraphy – The Victorian Internet*, in *Communication in History*, *supra* note 6, at 130.

<sup>&</sup>lt;sup>8</sup> See C. T. MEADOW, Making Connections: Communication Through the Ages 77-83 (2002) (hereafter "Communication Through the Ages").

<sup>&</sup>lt;sup>9</sup> See Communication in History, supra note 6, at 204.

<sup>&</sup>lt;sup>10</sup> See ibidem., at 158.

<sup>&</sup>lt;sup>11</sup> *Ibidem.* at 313.

<sup>&</sup>lt;sup>12</sup> See From Gutenberg to the Internet, supra note 1.

<sup>&</sup>lt;sup>13</sup> See ibidem., at 3-35.

<sup>&</sup>lt;sup>14</sup> See R. L. WEAVER, Understanding the First Amendment ch. 5 (6th ed. 2017).

<sup>&</sup>lt;sup>15</sup> See Thomas v. Chicago Park District, 534 U.S. 316, 320 (2002); see also H.W. Brands, The First American: The Life and Times of Benjamin Franklin 31 (2000) (hereafter "The Life and Times of Benjamin Franklin") ("Declaring that the tendency of the Courant was 'to mock religion and bring it into disrespect,' the General Court ordered that 'James Franklyn, the printer and publisher thereof, be strictly forbidden by this court to print or publish the New England Courant' unless he submitted each issue of the paper to the censor for prior approval.").

<sup>&</sup>lt;sup>16</sup> See Law Commission Working Paper No. 72, Treason, Sedition and Allied Offences (1977); J. SCHENCK KOFFLER & B. L. GERSHMAN, *The New Seditions Libel*, 69 CORNELL L. REV. 816 (1984).

<sup>&</sup>lt;sup>17</sup> See The Life and Times of Benjamin Franklin, supra note 15, at 88 ("The printing trade was fairly comparatively capital intensive, requiring specialized equipment that had to be purchased. Whether he [Benjamin Franklin] bought an existing business – Keimer's, for instance – or started his own from nothing, he would have to find the funds to purchase the equipment. Such funds were precisely what he lacked.").

<sup>&</sup>lt;sup>18</sup> See From Gutenberg to the Internet, supra note 1, at 3-35.

<sup>&</sup>lt;sup>19</sup> See ibidem.

<sup>&</sup>lt;sup>20</sup> Ibidem.



participate in political processes<sup>21</sup>. with both positive and negative consequences. In the most recent U.S. presidential election, the capabilities of the internet were on full display.

### § 1 – THE DEMOCRATIC NATURE OF THE INTERNET

The internet is remarkably democratic. As noted, prior technologies required substantial resources to purchase and operate. As a result, media outlets, particularly newspapers, could function in a decidedly undemocratic manner since they were often under the control of rich and powerful families or large corporations<sup>22</sup>. In particular, broadcast media (radio and television) suffered from limited broadcast spectra which meant that only a very few individuals or corporations could obtain broadcast licenses, and therefore most people were unable to engage in mass communication using those technologies<sup>23</sup>. By contrast, the internet is widely accessible. The internet requires nothing more than a desktop computer and an internet connection. Those who cannot afford a desktop can access the internet through a smart phone. Those who cannot afford a connection can access the internet for free through a myriad of businesses such as Starbucks and McDonald's. One who cannot afford either a desk top (or smart phone) or an internet connection can gain free access to both computers and the internet through their local libraries. Ease of access to the internet has diminished the power of the traditional media to control the flow of information. Even though the media still tries to control the "news," the internet dramatically limits its ability to do so. For example, consider the uprising that occurred in Egypt during the Arab Spring uprising. Although Egyptians had previously protested against their government, the fall of the Tunisian government seemed to convince many Egyptians that change was possible in their country, too<sup>24</sup>. Before the internet, the Egyptian

 $<sup>^{21}</sup>$  Ibidem. at 73-142.

<sup>&</sup>lt;sup>22</sup> See J. EPSTEIN, Dynasts of the Daily Press, reviewing Megan McKinney, The Magnificent Medills: America's Royal Family of Journalism During a Century of Turbulent Splendor (2011), and Amanda Smith, Newspaper Titan: The Infamous Life and Monumental Times of Cissy Patterson (2011), The New York Times Book Review Section, at 17 (October. 16, 2011).

<sup>&</sup>lt;sup>23</sup> See Red Lion Broadcasting Co. v. Federal Communications Commission, 395 U.S. 367 (1969) ("The lack of know-how and equipment may keep many from the air, but only a tiny fraction of those with resources and intelligence can hope to communicate by radio at the same time if intelligible communication is to be had, even if the entire radio spectrum is utilized in the present state of commercially acceptable technology").

<sup>&</sup>lt;sup>24</sup> See Scott Simon, Unrest Spreads Through the Middle East, National Public Radio, Weekend Edition Saturday (January. 29, 2011),

<sup>[</sup>http://www.npr.org/2011/01/29/133327917/] Unrest-Spreads-Through-Middle-East ("I think that if you look at Egypt, this has been an extremely turbulent decade. But the problem is that each time they started to crest and they started to put pressure, they got beaten back . . . . Literally beaten back. And you remember very clearly the journalists, the protestors, the bloggers, being beaten up and arrested. And there was this sense of almost like a tide coming in. And the waves would hit the beachhead but it would never quite be enough. I think the difference this time is the demonstration effect from Tunisia and the idea that this is actually possible.") (quoting Mr. Marc Lynch, Director, Middle East Studies, George Washington University); Tunisians Watch Egypt, supra note 759 ("And the Tunisian revolt inspired the Egyptian.").



government was able to maintain tight control over the traditional media (radio, television and the print media), and was thereby able to control the flow of information to the Egyptian public. During the uprising, the government tried to influence public events through its control of the media. For example, instead of covering the protests in Tahrir Square, state-owned television stations depicted pictures of normal traffic flows in other parts of the city<sup>25</sup>, or of pro-Mubarak demonstrations<sup>26</sup>. The contrast between the coverage of Egyptian television and the coverage of other media outlets like Al Jazeera was striking<sup>27</sup>. Egyptian television did not report on the demands of the protestors<sup>28</sup>, nor did the Egyptian newspaper Al Ahram.<sup>29</sup> Because of the internet, the Egyptian government's ability to control the flow of information was dramatically diminished<sup>30</sup>, and the internet played a major role in the Egyptian revolution<sup>31</sup>. Facebook provided a particularly effective platform for informing Egyptians<sup>32</sup>, and organizing protests<sup>33</sup>. In addition, Google, YouTube, and cell phones were used "to capture and share video"34. By the time of the revolt, some 473,000 Egyptians had accessed the Facebook page that was being used to facilitate communication between the protestors<sup>35</sup>. Twitter postings

<sup>&</sup>lt;sup>25</sup> See K. FAHIM, State TV Offers Murky Window Into Power Shift, With Few Protestors in Sight, The New York Times, A11 (February. 1, 2011).

<sup>26</sup> Ihidem

<sup>&</sup>lt;sup>27</sup> *Ibidem.* Interestingly, once Mubarak shut down the Internet, Egyptian Americans were able to follow Egyptian events on Al Jazeera. *See* Dan Bilefsky, *Converging on Little Egypt, With Anger and Hope, The New York Times*, at A14 (January. 31, 2011).

<sup>28</sup> Ibidem.

<sup>&</sup>lt;sup>29</sup> Ibidem.

<sup>&</sup>lt;sup>30</sup> See M. WARNER, Social Media and Satellite TV: A One-Two Punch Against Mubarak, Public Broadcasting Service, The News Hour (February. 14, 2011). [http://www.pbs.org/newshour/bb/world/jan-june11/egypt2\_02-14.html].

<sup>&</sup>lt;sup>31</sup> See Liz Sly, Jubilation – and New Determination – Sweep Across Egypt as Thousands Rejoice, The Courier-Journal, at A3 (February. 12, 2011) ("The protests were started by a small core of secular, liberal youth activists organizing on the Internet who only a few months earlier struggled to gather more than 100 demonstrators at time."); see also Brooke Gladstone, Tweeting From Egypt's Tahrir Square, National Public Radio, On the Media (February. 4, 2011).

<sup>&</sup>lt;sup>32</sup> See D. D. KIRKPATRICK, D. E. SANGER, A Tunisian-Egyptian Link That Shook Arab History, The New York Times, at A1 (February. 14, 2011):

The result was a Facebook group Mr. Ghonim set up: We Are All Kalid Said, after a young Egyptian who was beaten to death by police. Mr. Ghonim – unknown to the public, but working closely with Mr. Maher of the April 6 Youth Movement and a contact from Mr. ElBaradei's group – said that he used Mr. Said's killing to educate Egyptians about democracy movements. He filled the site with video clips and newspaper articles about police violence. He repeatedly hammered home a simple message: "This is your country; a government official is your employee who gets his salary from your tax money, and you have your rights." He took special aim at the distortions of the official media, because when the people "distrust the media then you know you are not going to lose them," he said.

<sup>&</sup>lt;sup>33</sup> *Ibidem.*, at A10; *see also Jubilation – and New Determination, supra* note 25, at A3 ("But their work on Facebook and other social network sites over the past few years built a greater awareness and bitterness among Egyptians over issues like police abuse and corruption.").

<sup>&</sup>lt;sup>34</sup> See J. Preston, Movement Began With Outrage and a Facebook Page That Gave It an Outlet, The New York Times, at A10 (February. 6, 2011); see also K.Fahim, M. El-Naggar, Across Egypt, Protests Direct Fury at Leader, The New York Times, A8 (January. 26, 2011).

<sup>&</sup>lt;sup>35</sup> See Preston, supra note ???, at A10.



regarding Hosni Mubarak reached 11,000 postings in a single hour<sup>36</sup>. Bambuser, which permits streaming video images, saw postings increase dramatically from 800 a day to 10,000 postings a day during the protests. Once the Egyptian government realized that the internet was being used to coordinate the revolt, it moved to shut down Egyptian internet servers<sup>37</sup>, as well as other internet-related communication devices such as cell phone services<sup>38</sup> and Twitter<sup>39</sup>. The government also ordered Vodafone to shut down its service in selected areas in Egypt<sup>40</sup>, and issued similar orders to internet service providers<sup>41</sup>. The net effect was a major drop in Facebook activity<sup>42</sup>, Data traffic was reduced by ninety percent<sup>43</sup>. Amazingly, in a nation of some 80 million people and 20 million internet users, Egypt was able to shutdown 90% of internet access in a matter of minutes<sup>44</sup>. However, the shut down did not quell the protests. Many Egyptians were offended by the government's decision to shut down the internet<sup>45</sup>, and headed for the streets to participate in the protests, causing the protests to swell<sup>46</sup>. Some interpreted the government's efforts to restrict speech as a sign of weakness and fear<sup>47</sup>. Eventually, Mubarak was ousted from power<sup>48</sup>.

Another striking example of the internet's impact is illustrated by the campaign of Rand Paul who was elected to a United States Senate seat from the Commonwealth of Kentucky. Paul, son of

 $<sup>^{36}</sup>$  See NATASHA SINGER, Why Some Twitter Posts Catch On, and Some Don't, The New York Times, at A4 (February. 6, 2011).

<sup>&</sup>lt;sup>37</sup> See S. SIMON, Egypt's Stone Age Response to 21st Century Media, National Public Radio, Weekend Edition Saturday, Simon Says (January. 29, 2011).

<sup>&</sup>lt;sup>38</sup> See S. S. NELSON, Lawlessness Could Hijack Egypt's Popular Uprising, National Public Radio (January. 31, 2011) (as the unrest grew, "the government took the unprecedented step of shutting down the Internet and cell phones across the country to stop protestors from communicating with each other or the outside world.").

<sup>&</sup>lt;sup>39</sup> See Across Egypt, Protests Direct Fury at Leader, supra note 34, at A1 (noting various restrictions, including the fact that Twitter had confirmed that its site had been blocked in Egypt).

<sup>&</sup>lt;sup>40</sup> See J. GLANZ, Egypt Autocracy Found Internet's "Off" Switch, The New York Times, at A1 (February. 16, 2011) ("Vodafone expressed extreme reluctance to shut down but was told that if it did not comply, the government would uses its own "off" switch via the Telecom Egypt infrastructure – a method that would have be much more time consuming to reverse."); M. RICHTEL, Egypt Halts Most Internet and Cell Service, and Scale of Shutdown Surprises Experts, The New York Times, at A13 (January. 29, 2011).

<sup>&</sup>lt;sup>41</sup> See ibidem.

<sup>42</sup> Ibidem.

<sup>&</sup>lt;sup>43</sup> See Egypt Halts Most Internet and Cell Service, supra note 40, at A10.

<sup>&</sup>lt;sup>44</sup> See Egypt Autocracy Found "Off" Switch, supra note 40; M. RICHTEL, Egypt Cuts Off Most Internet and Cell Service, The New York Times (January. 28, 2011).

<sup>&</sup>lt;sup>45</sup> See N. COHEN, Egyptians Were Unplugged, and Uncoved, The New York Times, at B3 February. 21, 2011); J. GLANZ, Egypt Autocracy Found Internet's "Off" Switch, The New York Times, at A1 (February. 16, 2011).

<sup>&</sup>lt;sup>46</sup> See Egypt Halts Most Internet and Cell Service, supra note 40; Egyptians Were Unplugged, supra note 45, at B3.

<sup>&</sup>lt;sup>47</sup> See S. SHANE, Technology Helps Ignite Chain (as in Tunisia). Except When It Bolsters Oppression (as in Iran), The New York Times, Week in Review, at 1 (January. 30, 2011) ("But by cutting off Egypt's Internet and wireless service late last week in the face of huge street protests, President Hosni Mubarak betrayed his own fear – that Facebook, Twitter, laptops and smartphones cold empower his opponents, expose his weakness to the world and topple his regime").

<sup>&</sup>lt;sup>48</sup> See M. EL-NAGGAR, The Legacy of 18 Days in Tahrir Square, The New York Times, at 4 (February. 20, 2011).



the Republican U.S. Representative and presidential candidate, Ron Paul, aggressively used the internet in his campaign<sup>49</sup>. Paul entered the race after then-incumbent United States Senator Jim Bunning, a baseball Hall of Famer, was pushed out of his seat by the Republican hierarchy. When Bunning decided to resign, it was widely assumed that Senator Mitch McConnell (the Republican minority leader in the Senate and the senior Senator from Kentucky) intended to replace Bunning with Kentucky Secretary of State Trey Grayson. McConnell did not anticipate the rise of Rand Paul. Paul effectively used internet-based fundraising techniques to gather more campaign donations than Grayson<sup>50</sup>, or that Paul - capitalizing on Tea Party sentiment - would overtake Grayson (once a "prohibitive favorite") in public opinion polls<sup>51</sup>. Ultimately, Paul defeated Grayson by a comfortable margin (14 percentage points) in the primary<sup>52</sup>. Despite the fact that Paul made some controversial remarks during the general election campaign<sup>53</sup>, and some difficult issues were raised regarding his past<sup>54</sup>, either of which could have derailed an ordinary candidate, Paul easily defeated his Democratic rival, Kentucky Attorney General Jack Conway<sup>55</sup>. Although Paul used traditional fundraising techniques, he also used online techniques to raise a substantial amount of campaign funds<sup>56</sup>. Almost immediately, Paul jumped to an early lead in public opinion polls<sup>57</sup>, and he continued to lead throughout the general election campaign, despite aggressive opposition from the Louisville newspaper, The Courier-Journal<sup>58</sup>. Paul ultimately defeated Conway by 12

<sup>&</sup>lt;sup>49</sup> See J. GERTH, Paul Takes Lead in Fundraising, The Courier-Journal, at B1 (Feb. 2, 2010).

<sup>&</sup>lt;sup>50</sup> See Ibidem.; see also Joseph Gerth, Ron Paul Touts Son for Senate in Ky. Visit, The Courier-Journal, at B4 (January. 31, 2010) ("The campaign does most of its fundraising on the Internet instead of using traditional fundraising events.").

<sup>&</sup>lt;sup>51</sup> See J. GERTH, Rand Paul: This Year's Political Surprise, The Courier-Journal, at A1 (February. 14, 2010).

<sup>&</sup>lt;sup>52</sup> See K. RUDIN, Rand Paul is Big Winner in Ky. GOP Senate Primary; Conway Wins, National Public Radio, It's All Politics (May 18, 2010).

<sup>&</sup>lt;sup>53</sup> See R. ALFORD, Drug-Fight Funding Stance May Cost Paul: He Insists E. Ky. Will Side With Him, The Courier-Journal, at B1 (August. 14, 2010); J. GERTH, Paul Draws Questions From East and West, The Courier-Journal, Political Notebook, at B1 (July 12, 2010); K. RUDIN, Rand Paul in Civil Rights Bill Firestorm, National Public Radio, It's All Politics (May 20, 2010) ("Supporters of Paul and defeated opponent Trey Grayson, the secretary of state, don't like each other. But right now, Paul seems to have other, more pressing problems. He has gotten himself in a growing controversy over his views about the 1964 Civil Rights Act.").

<sup>&</sup>lt;sup>54</sup> See A. WOLFSON, Paul Taps Anti-Washington Fervor: Republican's Limited-Government Message Resonates with Voters, The Courier-Journal, A1 (October. 17, 2010) (Paul's campaign was potentially complicated by the fact he had belonged to a society in college that was sacrilegious and blasphemous – a potentially difficult complication in a religiously conservative state).

<sup>&</sup>lt;sup>55</sup> See The New York Times, Election 2010, Election Results, Kentucky, at p. 96 (November. 3, 2010) (showing that Paul defeated Conway by 56% to 44%).

<sup>&</sup>lt;sup>56</sup> See R. Alford, Paul Fundraiser Nets \$172,000: Using Father's Online Strategy, The Courier-Journal, at B5 (June 30, 2010).

<sup>&</sup>lt;sup>57</sup> Rand Paul Leads Jack Conway in Kentucky Senate Race, The Courier-Journal, A1 (May 29, 2010)

<sup>&</sup>lt;sup>58</sup> See J. R. CARROLL, Conway's Potential Was Seen Early: Mentors Urged Him to Run for Office, The Courier-Journal, at A1 (October. 10, 2010: Andrew Wolfson, Rand Paul Has Long History of Controversial Views, The Courier-Journal (June. 17, 2010).



percentage points<sup>59</sup>. Part of that gap may have been created by Conway's aggressive and negative advertising which alienated voters<sup>60</sup> and lowered Conway's public approval ratings<sup>61</sup>. However, Conway may have decided to air those advertisements because he was trailing in public opinion polls.

Perhaps the most dramatic illustration of the power of the internet was President Obama's 2008 campaign for the presidency. Obama's staff was more technologically savvy than the staff of previous campaigns and skillfully used text messaging and internet techniques to propel his campaign effort<sup>62</sup>, as well as to connect with and mobilize voters<sup>63</sup>. Obama also used the internet to raise campaign funds. At one point, he tried to raise a million dollars in a single minute<sup>64</sup>. During a single month, he raised \$150 million<sup>65</sup>, and overall he raised nearly three quarters of a billion dollars for his campaign<sup>66</sup>. Without the internet, it is difficult to believe that candidate Obama could have defeated then Senator Hillary Rodham Clinton, his rival for the Democratic nomination. When the race began, Clinton held significant advantages over Obama<sup>67</sup>. With a former President as her spouse, Clinton obtained major financial donations from prominent Democratic supporters, and was able to garner major endorsements<sup>68</sup>. Obama, who aggressively used the internet, was able to overcome Clinton's advantages, to create his own advantages, and ultimately to prevail in the primary campaign. Although Obama attracted large donors as well<sup>69</sup>, his campaign

<sup>&</sup>lt;sup>59</sup> See J. GERTH, Paul Win Sends a Message: Part of GOP Wave, He Champions Small Government, Few Business Limits, The Courier-Journal, K3 (November. 3, 2010) (showing that Paul amassed 751,664 votes (56%) to Conway's 597,685 votes (44%).

<sup>&</sup>lt;sup>60</sup> See R. MONTAGNE, Kentucky Senate Race Heats Up Over Attack Ad, National Public Radio, Morning Edition (October. 20, 2010).

<sup>&</sup>lt;sup>61</sup> See Real Clear Politics, Kentucky Senate – Paul v. Conway (showing that, following the airing of Conway's attack advertisements, Paul's lead expanded to double digits in some polls, and near double digits in other polls).

<sup>62</sup> See J. R. CARROLL, "Game Change" Insightful and Lively, The Courier-Journal, Forum Section, A7 (January. 30, 2010) ("Under the radar, the [Obama] campaign was raising money off the Web with ferocity – positioning Obama to capitalize on his victories while Clinton scrambled to keep up."); M. Luo, Obama's September Success Recasts the Fundraising Landscape, The New York Times, at A21 (October. 20, 2008); see also M. Luo, Small Online Contributions Add Up to Huge Fund-Raising Edge for Obama, The New York Times, February. 20, 2008, at A18; M. Luo, J. Zeleny, Reversing Stand, Obama Declines Public Financing, The New York Times, at A1 (June. 20, 2008).

<sup>&</sup>lt;sup>63</sup> See D. SUPERVILLE, Obama Turns to YouTube Event, The Courier-Journal, at A6 (February. 2, 2010).

<sup>&</sup>lt;sup>64</sup> See "Obama Minute" Looks to Raise a Million in a Minute, National Public Radio, The NPR News Blog (April 21, 2008).

<sup>65</sup> See Luo & Zeleny, supra note 62, at A18; P. Overby, Obama Raises Stunning \$150 Million in September, National Public Radio (October. 19, 2008).

<sup>&</sup>lt;sup>66</sup> See P. OVERBY, Could Big Donors Break Obama's Fundraising Record?, National Public Radio (November. 7, 2009).

<sup>&</sup>lt;sup>67</sup> See D. K. KIRKPATRICK, Clinton Campaign Shows Fundraising Edge, The New York Times, at A18 (April. 2, 2007).

<sup>&</sup>lt;sup>68</sup> See Clinton Exceeds Obama in Summer Fundraising, National Public Radio (October. 2, 2007) ("Hillary Rodham Clinton outpaced all of her rivals for the Democratic presidential nomination by raising \$22 million this summer for her primary campaign, reporting more new donors than even Barack Obama.").
<sup>69</sup> Ibidem.



was propelled by small donations gathered over the internet<sup>70</sup>. By contrast, Clinton was more dependent on "large" donors with nearly half of her donors reaching their maximum permissible contribution levels<sup>71</sup>. Obama ultimately raised three times as much money as Clinton<sup>72</sup>. Given the headwind facing Republican candidates in that election cycle (*e.g.*, an unpopular incumbent President, a severe economic recession, and two wars), had it not been for the internet, Hillary Clinton might well have become the first female President of the United States.

The internet also influenced the 2008 general election campaign. Candidate Obama relied heavily on the internet, especially on social media<sup>73</sup>, including Facebook, Twitter, text messages and YouTube<sup>74</sup>. Because of Obama's internet fundraising prowess, candidate Obama was able to dramatically outspend his Republican Challenger John McCain who accepted public financing for his campaign, including spending limits that limited him to spending about \$84 million on his campaign<sup>75</sup>. Obama rejected public financing and raised hundreds of millions of dollars<sup>76</sup>, and more than \$750 million during the course of the campaign<sup>77</sup>. Obama's fundraising prowess provided him with a huge financial advantage during the general election campaign, allowing him "to overwhelm the McCain campaign with a flood of advertising"78. Obama promoted himself "not only in oldschool venues such as television and Web sites", but also in "innovative spaces such as video games" and he even "purchased a 30-minute time slot on several networks to air an infomercial"<sup>79</sup>. Obama also "met McCain's negative ads one for one," and ran positive ads as well<sup>80</sup>, and also maintained substantial campaign networks in every state, even states that might have been regarded as unwinnable by a Democrat<sup>81</sup>. A striking example of the effect of Obama's money was his ability to capture the State of Indiana, a previously reliably "red" state<sup>82</sup>. Obama flooded Indiana with

<sup>&</sup>lt;sup>70</sup> P. OVERBY, *Presidential Fundraising: 2003 x 2*, NPR News Blog, National Public Radio (February. 12, 2008).

<sup>&</sup>lt;sup>71</sup> Ibidem.

<sup>&</sup>lt;sup>72</sup> See Ohama Out-Fundraises Clinton 3-1 in Indiana in March, National Public Radio, NPR News Blog (April 22, 2008).

<sup>&</sup>lt;sup>73</sup> See A. SHAPIRO, Obama No Longer Leads the Pack on Social Media, National Public Radio, All Things Considered (Januray. 26, 2011).

<sup>74</sup> See ibidem.

<sup>&</sup>lt;sup>75</sup> See Public Funding on the Ropes, The New York Times, at A20 (June 20, 2008); Peter Overby, Obama's Fundraising Skyrockets After Slow May, National Public Radio (July 17, 2008); P. OVERBY & R. MONTAGNE, Obama Campaign Shatters Fundraising Record, National Public Radio (December. 5, 2008).

<sup>&</sup>lt;sup>76</sup> Ibidem.; see also P. OVERBY, Obama Finished Campaign With Money to Spare, National Public Radio, All Things Considered (December. 5, 2008); Linton Weeks, Did Obama Kill Public Campaign Finance?, National Public Radio (October. 22, 2008).

<sup>&</sup>lt;sup>77</sup> See M. Luo, Obama Hauls in Record \$750 Million for Campaign, With Plenty Left to Spend, The New York Times, A29 (December. 5, 1998).

<sup>&</sup>lt;sup>78</sup> See ibidem.

<sup>&</sup>lt;sup>79</sup> See ibidem.

<sup>80</sup> See ibidem.

<sup>81</sup> See Did Obama Kill Public Campaign Finance, supra note 76.

<sup>82</sup> See Could Big Donors Break Obama's Fundraising Record, supra note 66.



television ads and campaign workers<sup>83</sup>. In the 2010 congressional elections, Indiana returned to its Republican roots<sup>84</sup>.

In a relatively tight popular vote (the electoral vote was a "landslide")<sup>85</sup>, Obama's nearly \$8 to \$1 financial advantage must have helped decide the election. It is difficult to begrudge Obama the additional funds since much of his money came from small donors<sup>86</sup>. The campaign generated more than 6,000 new donors in a single month, each of which gave less than \$100<sup>87</sup>, thereby reflecting the campaign's popular appeal<sup>88</sup>.

### § 2 – THE 2016 PRESIDENTIAL CAMPAIGN

Even though the internet seemed to have a major impact on the 2008 election, it seems to have had a more profound impact on the 2016 election.

### A) Trump and Twitter

President Donald Trump's use of Twitter to convey his views in one of the more interesting and profound developments of the internet era. Before the internet, political candidates who wanted to convey their views to the public had no choice but to go through the filter of the traditional media. The media could pick and choose which of those views they wished to report, and how they would report them. In other words, it was extremely difficult for a political candidate to directly communicate with the American people, or convey unfiltered views to them.

Trump's genius (perhaps his downfall, at times) is that he has used Twitter to effectively circumvent the media filters and take his views directly to the American public. One journalist argued that "Trump is running what might be the most transparent

<sup>&</sup>lt;sup>83</sup> See ibidem. ("Just one example: Indiana, a state that had been reliably Republican until 2008. State Republican Chairman Murray Clark was staggered by what the Obama money was able to buy – TV ads and campaign workers flooding his state. 'I hate to keep going back to money,' he told NPR in October of 2008. 'But I think its hard for campaign and political veterans to fathom what kind of money the Obama campaign has."').

<sup>84</sup> See C. JOHNSON, SENATE: Democrats Retain Control Amid GOP Gains (November. 3, 2010) ("Republicans picked up six seats — in Indiana, Illinois, Arkansas, North Dakota, Pennsylvania and Wisconsin. And they held on in several other races with strong showings from a few candidates with strong ties to the Tea Party.").

<sup>&</sup>lt;sup>85</sup> See CNN Election Center 2008 (Obama-Biden received 53% of the popular vote to McCain-Palin's 46%). http://www.cnn.com/ELECTION/2008/results/president/ The variance of seven percent of the popular vote is relatively small given the fundraising discrepancy.

<sup>&</sup>lt;sup>86</sup> See OVERBY & MONTAGNE, supra note 1237 ("[Obama] got small donors on the Internet like no one has ever seen before."); Weeks, Did Obama Kill Public Campaign Finance?, supra note 76.

<sup>&</sup>lt;sup>87</sup> See ibidem. ("The Obama campaign reports it had 632,000 new donors in September, and the average gift was less than \$100.").

<sup>&</sup>lt;sup>88</sup> See ibidem. ("In an essay titled, 'Money in the 2008 Presidential Elections: A Collapse of the Campaign Finance Regime?' T. E. MANN of the Brookings Institution [who notes] the rise in the number of small donors, investments in grass-roots campaigning, and 'signs that suggest fundraising is more an indicator than a cause of interest, energy, and electoral appeal,' he writes.").



administration in history"<sup>89</sup>. Indeed, Trump seems to post on Twitter about almost everything, and at all hours of the day or night<sup>90</sup>. As another columnist noted, the "president picks fights with his own cabinet members, and they argue it out in public. He delivers his views and his reaction to the news in the middle of the night, when officious aides aren't there to mess around with them"<sup>91</sup>.

It is doubtful that Trump could have won without Twitter. In fact, the traditional media (defined broadly to include both the print and the broadcast media) all but campaigned against Trump during the election season. When Trump won, they were in shock. As WNYC's *On the Media* stated: "The election of Donald Trump was a surprise for many journalists, pollsters, and pundits, who are now asking what went wrong and what was missed along the way". Some wondered, "whether collective delusion -- not a lack of information -- is the reason why the press is in shock".

### B) WikiLeaks and the DNC

The 2016 election was also heavily influenced by WikiLeaks perhaps with help from the Russian government<sup>94</sup>. Everyone admits that someone hacked into the Democratic National Committee's (DNC) computer servers during the 2016 presidential election campaign, and stole as many as 20,000 emails, many of them embarrassing to Democratic party leaders.<sup>95</sup> In particular, the emails revealed that Democratic officials had attempted to rig the Democratic presidential primaries in favor of Hillary Clinton<sup>96</sup>. Some believe that the hack was undertaken by Russian intelligence officials<sup>97</sup>. Clinton campaign officials argued that the Russians were attempting to influence the outcome of the U.S. election, and in particularly trying to help Donald Trump win the election and undercut U.S. participation in the North Atlantic Treaty Organization (NATO)98. Trump had indicated a desire to "get along" with Russia99. Regardless of who did the hacking, the emails were turned over to WikiLeaks which published them online 100. The DNC hacking incident reveals how the internet has revolutionized this aspect of campaigning. In the Watergate incident, in which Republican subordinates broke into the Democratic National Committee's headquarters, there was an

<sup>&</sup>lt;sup>89</sup> M. MCKINSLEY, Trump the Transparent, The New York Times (June 17, 2017).

<sup>90</sup> Ihidem

<sup>91</sup> Ihidem.

 $<sup>^{92}</sup>$  See B. Gladstone, R. Garfield, Election 2016: America's Rorschach Test, On the Media (November. 11, 2016).

<sup>93</sup> Ibidem.

<sup>&</sup>lt;sup>94</sup> See D. E. SANGER & N. PERLROTH, As Democrats Gather, a Russian Subplot Raises Intrigue, The New York Times (July 24, 4015).

<sup>95</sup> Ibidem.

<sup>96</sup> Ibidem.

<sup>97</sup> Ibidem.

<sup>98</sup> Ibidem.

<sup>99</sup> Ibidem.

<sup>100</sup> Ibidem.



actual physical break-in of Democratic offices at the Watergate complex<sup>101</sup>. The burglars might have been seeking information that would help the Republicans undermine Democratic candidates, or they might have been attempting to learn what the Democrats knew about issues that might prove embarrassing to the Republicans<sup>102</sup>. By contrast, the 2016 break-in was high tech and digital. The "burglars" did not have to physically enter the DNC's headquarters because the internet allowed them to conduct their break-in from afar using electronic techniques, and WikiLeaks gave them a platform for publishing the stolen information worldwide<sup>103</sup>. In the United States, the 2016 hacking was widely decried as Russian interference in the U.S. presidential campaign<sup>104</sup>. The situation led to the appointment of a special counsel and multiple indictments<sup>105</sup>.

However, this type of opposition research went both ways. The evidence suggests that a group called Fusion GPS prepared a 35-page document referred to as the Steele Dossier which involved opposition research on then-presidential candidate Donald Trump's Russian connections<sup>106</sup>. The document, which was written by a British intelligence official, was financed initially by Trump's Republican primary challengers, and later by his general election opponent, Hillary Clinton<sup>107</sup>. The Dossier contained a number of salacious allegations about Trump, and was made public over the internet when it was published by buzzfeed<sup>108</sup>. Trump denounced the Dossier as "fake news"<sup>109</sup>.

### § 3 – THE BRAVE NEW WORLD

Of course, by enabling all people to engage in political speech, the internet has not been without its challenges or difficulties. For one thing, concerns about "internet neutrality" have emerged<sup>110</sup>. "Net neutrality" is the idea that phone and cable companies that offer internet services should be required to treat all traffic on the network equally<sup>111</sup>. In other words, they should not be allowed to slow or block communications from their competitors, or favor communicators who pay a fee<sup>112</sup>. An absence of net neutrality creates a risk that small or out-of-the-mainstream groups will be

103 Ibidem.

<sup>&</sup>lt;sup>101</sup> See R. PEAR, Watergate Then and Now: 2 Decades After a Political Burglary, the Questions Still Linger, The New York Times (June 15, 1992).

<sup>102</sup> Ibidem.

<sup>104</sup> See D. E. SANGER & N. PERLROTH, As Democrats Gather, a Russian Subplot Intrigue Emerges, The New York Times (July 24, 2016).

<sup>&</sup>lt;sup>105</sup> See P. BAKER, Mueller's First Indictments Send a Message to Trump, The New York Times (October. 30, 2017).

<sup>&</sup>lt;sup>106</sup> See K. P. VOGEL, The Trump Dossier: What We Know and Who Paid for It, The New York Times (October. 25, 2017).

<sup>107</sup> Ibidem.

<sup>108</sup> Ibidem.

 $<sup>^{109}</sup>$  Ibidem.

<sup>&</sup>lt;sup>110</sup> A. SELYUKH, U.S. Appeals Court Upholds Net Neutrality Rules in Full, National Public Radio, The Two Way (June 14, 2016).

<sup>111</sup> Ibidem.

<sup>112</sup> Ibidem.



disfavored and unable to get their message out to the general population. Of course, this difficulty only affects the ability of individuals to get their message out through their web sites and potential hits on those websites. To the extent that individuals choose to communicate through email listservs, an absence of net neutrality may not have much impact.

The internet has also enhanced created the possibility for the creation of so-called "fake news" which can influence public attitudes and potentially political campaigns. For example, following the release of WikiLeaks emails regarding the Clinton presidential campaign, Clinton's campaign manager announced a fund raiser at a pizzeria, Comet Ping Pong<sup>113</sup>. Shortly thereafter, a slew of "fake" online allegations began appearing suggesting that Clinton and her campaign manager were operating a child sex ring out of the restaurant<sup>114</sup>. These allegations included online posts, involving pictures of children who were alleged "victims" of the sex ring<sup>115</sup>. Even though the allegations were completely untrue, the pizzeria received 30 to 40 threatening phone calls in a single weekend, and a man entered the pizzeria and fired a rifle, believing that he was acting to protect the children<sup>116</sup>.

There has also been considerable controversy regarding the ability of foreign interests, in particular the Russian government, to harness social media platforms in an effort to control or influence the outcome of U.S. elections<sup>117</sup>. Much of the concern focused on anonymous paid advertisements that were aired during the 2016 presidential campaign on platforms such as Facebook, Google and Twitter, and that could have reached as many as 150 million Americans<sup>118</sup>. In some cases, technology was used to retweet content on to other platforms such as YouTube<sup>119</sup>. A major congressional investigation is underway regarding how those advertisements influenced the 2016 presidential election<sup>120</sup>.

In the modern era, elections are also potentially subject to manipulation through sophisticated electronic devices such as "trolls" and "bots". These devices can be used to manipulate information because sites such as Twitter, not only allow individuals to participate anonymously, but to automate their participation<sup>122</sup>. As a result, users can use "bots," run by so-called "puppet masters," who can suggest the existence of lots of "likes"

<sup>&</sup>lt;sup>113</sup> See J. LUDDEN, Armed Man Threatens D.C. Pizzeria Targeted by Fake News Stories, National Public Radio, All Things Considered (December. 5, 2016).

<sup>114</sup> Ibidem.

 $<sup>^{115}</sup>$  Ibidem.

<sup>116</sup> Ihidem.

<sup>&</sup>lt;sup>117</sup> See P. EWING, Tough Questions, Hours of Hearings But No Silver Bullet on Russian Tech Interference, National Public Radio, Tech Titans and the Information Complex (November. 2, 2017).

<sup>118</sup> Ibidem.

<sup>119</sup> Ibidem.

<sup>120</sup> Ibidem.

<sup>&</sup>lt;sup>121</sup> See Ph. EWING, As Scrutiny of Social Networks Grows, Influence Attacks Continue in Real Time, National Public Radio, Politics (September. 28, 2017).

<sup>&</sup>lt;sup>122</sup> See F. Manjoo, How Twitter is Being Gamed to Feed Misinformation, The New York Times (May 31, 2017).



and "retweets" for particular posts 123. Because of these possibilities, when it may appear that a particular idea or political candidate is generating a lot of internet interest, much of this interest may have been ginned up through bots and fake accounts 124. These devices allow individuals to "manufacture consensus" by "building the illusion of popularity for a candidate or a particular idea"125. After a group decides to promote a particular message, "Bots flood the network, tweeting and retweeting thousands or hundreds of thousands of messages in support of the story"126. "The initial aim isn't to convince or persuade, but simply to overwhelm — to so completely saturate the network that it seems as if people are talking about a particular story. The biggest prize is to get on Twitter's Trending Topics list, which is often used as an assignment sheet for the rest of the internet"127. Two researchers at the U. Southern California estimated that as much as 20% of all traffic on Twitter is botdriven 128. Of course, the risk is that such bot-driven tweets may cause individuals to doubt what they see on Twitter or on the news generally<sup>129</sup>.

#### **CONCLUSION**

Like Gutenberg's invention of the printing press, the internet has revolutionized communication and has produced an unparalleled increase in democratization. Unlike prior communication technologies, which were owned and controlled by a small number of wealthy individuals, or large corporations, the internet is accessible to almost everyone. Even those who are too poor to own a corporation, or pay for home internet access, can access the internet through handheld devices or through free sources (e.g., libraries). The net effect is that, for the first time in history, ordinary people are able to engage in mass communication, and thereby impact the political debate. The effect of these technologies have been dramatic, and have been evident in the United States as well as in many other parts of the world<sup>130</sup>.

Nevertheless, the internet has a slimy underbelly. Internet service providers can attempt to distort search results by favoring certain web sites over others. Ease of access also creates the possibility that outsiders will attempt to control or influence the outcome of election results. Such manipulation is especially possible given that internet communications can be anonymous as well as automated. As a result, it is possible to propagate "fake news" and to use "bots" to increase the importance of a news story. Thus, the internet is far from mature, but rather should be regarded as having entered its adolescence.

<sup>123</sup> Ibidem. 124 Ibidem. 125 Ibidem. 126 Ibidem. 127 Ibidem. 128 Ibidem. 129 Ibidem.

 $<sup>^{130}</sup>$  See From Gutenberg to the Internet, supra note 1.

