The Norman/Friedman Principle: Equal Rights to Information and Technology Access

Joshua L. Friedman* & Gary C. Norman **, §

* M.B.A., University of Baltimore, Merrick School of Business, 2009; J.D., University of Maryland Francis King Carey School of Law, 2007; B.A., University of Maryland, College Park, 2004; Attorney Advisor, U.S. Social Security Administration, Office of Disability Adjudication and Review. Mr. Friedman is Vice Chair of the Maryland Assistive Technology Loan Program.

** L.L.M. American University Washington College of Law, 2011; J.D., Cleveland-Marshall College of Law, 2000; B.A., Wright State University, 1997; Staff Attorney, Centers for Medicare & Medicaid Services, Office of the Attorney Advisor. Mr. Norman is a Commissioner with the Maryland Commission on Civil Rights. He is the recipient of the 2012 Disability Inclusion Award by the Office of Civil Rights and Equal Opportunity of the Centers for Medicare and Medicaid Services. He is partnered with a guide dog.

§ The authors' names are listed alphabetically and each author has contributed equally to this article. The views expressed in this journal article do not represent the views of the Social Security Administration, Centers for Medicare & Medicaid Services, the United States government, or the State of Maryland. They are solely the views of the authors acting in their personal capacities. The authors wish to gratefully thank Ben Yelin, third-year law student at the University of Maryland Francis King Carey School of Law, for his significant research, writing, and editing assistance on this article.

> It was only just words, words,—they meant nothing in the world to him, I might just as well have whistled. Words realize nothing, vivify nothing to you, unless you have suffered in your own person the thing which the words try to describe.
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> ~Mark Twain[1]

I. INTRODUCTION

Developments in science and technology have a direct impact on the habits, practices, and ultimately, the very substance and nature of societal institutions. As such, innovations in science and technology, when accessible to all, may have the effect of serving as an equalizer of the opportunities of people with disabilities for living, learning, and earning. For example, an accessible Internet—a "superhighway" for information, designed for the needs of people with disabilities—can provide the disabled, the world's largest minority population,[2] with enhanced opportunities for inclusion and integration. Many of the features of the global, information-based economy have the potential to

[1] MARK TWAIN, A CONNECTICUT YANKEE IN KING ARTHUR'S COURT (1889), *reprinted in* MARK TWAIN: HISTORICAL ROMANCES 213, 418 (The Library of America ed., 1994)

[2] U.N. Secretariat for the Convention on the Rights of Persons with Disabilities, Factsheet on Persons with Disabilities (Jan. 18, 2013), http://www.un.org/disabilities/documents/toolaction/pwdfs.pdf.

level the playing field between people with disabilities and the temporarily able-bodied.[3] This result, however, may not be positively realized as long as customs, policies, and laws fail to facilitate and promote accessibility for the disabled.[4]

In the Information Age, a society that does not commit itself to a proactive effort respecting information and digital access propagates injustice, denigrating affirmative civil rights already on the books. In this, the era of the Americans with Disabilities Act (ADA), there is a range of legal obligations respecting information access.[5] The public, however, may be uneducated about, or may simply in some circumstances disregard, issues related to accessibility. While there is an array of domestic protections for persons with disabilities that impose affirmative obligations (for example, providing auxiliary aides or services at the office of a medical provider), such provisions require proactive implementation to achieve their intended purposes. A law on the books without more is insufficient. Thus, the question is how to fortify or expand existing protections, so as to ensure that the affirmative rights drafted by legislators are more than just words.

With a goal of contributing to the dialogue about the problem of accessibility, the Article will present the Norman/Friedman Principle and argue that it should inform and influence the creation and implementation of relevant laws. The Norman/Friedman Principle might be stated as follows: imbuing science and technology with principles of universal design and accessibility will increasingly allow individuals with disabilities to benefit society through greater opportunities for socioeconomic commerce. Once again, technology has a direct impact on "the habits, the practices, and ultimately the substance of societal institutions."[6] This Article discusses, in accord with its principle, how science and technology should create opportunities, rather than restrict the potential technological benefits for the disabled.

Each generation has the responsibility to clarify and improve upon the constellation of constitutional and civil rights available to all citizens.[7] The adoption of the Norman/Friedman Principle is important

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[3] Other scholars have developed this point about the irony of the unrealized potential of the Internet to be an equalizer for persons with disabilities. *E.g.*, M. Christine Fotopulos, *Civil Rights Across Borders: Extraterritorial Application of Information Technology Accessibility Requirements Under Section 508 of the Rehabilitation Act*, 36 PUB. CONT. L.J. 95, 97 (2006). This Article is an exploration of differing technological developments and legal developments related to them, but is not intended to constitute a complete catalog of the ongoing legal developments.

[4] *Id.*

[5] *See generally* Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101–12213 (2006 & Supp. III 2009).

[6] *See* Ezra Dodd Church, Note, *Technological Conservatism: How Information Technology Prevents the Law from Changing*, 83 TEX. L. REV. 561, 565 (2004) (discussing the view that once new technologies are introduced into human society, they operate until they have effectively permeated every institution in that society).

[7] For an activist perspective on the obligation of citizens in a republic, see the 1961 inaugural remarks of President John F. Kennedy. President John F. Kennedy, 1961 Inaugural Address (Jan. 20, 1961) (calling on American citizens to protect rights of people the world over to be free from tyranny), *available at* http://www.ourdocuments.gov/doc.php?doc=91&page=transcript. *See also*

because issues of technology and information access limit equal opportunities for the disabled to live, learn, and earn.[8] The authors of this Article, both of whom are lawyers with disabilities, will posit a range of arguments, exploring American law, as well as the United Nation's Convention on the Rights of Persons with Disabilities,[9] to discuss innovative development in disability-rights law and the understanding of the public about that body of law. Notably, this Article will put forth a broader understanding of constitutional jurisprudence—that arguably the U.S. Constitution supports an affirmative right to information and technology access. The authors also posit that, regardless of whether the U.S. Supreme Court declares the existence of the right to technology access, positive legislation on the state and local levels will provide much-needed progress towards protecting the civil rights of the disabled. The authors will consequently explore affirmative measures that public officials might advance, and specifically, measures that elected officials in the Maryland General Assembly might pass, to fortify the civil rights of individuals with disabilities.

II. THE DIGITAL DIVIDE AND THE INFORMATION AGE

> We live in a society exquisitely dependent on science and technology, in which hardly anyone knows anything about science and technology.
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> ~Carl Sagan[10]

A. Disability: The Basic Legal Framework

An individual must meet the legal definition of disability in order to claim the broad protections of affirmative disability legislation, such as the Americans with Disabilities Act. The ADA definition of disability has a multi-part framework. As enacted in 1990, the ADA defined "disability" with respect to an individual as: "(A) a physical or mental impairment that substantially limits one or more of the major life activities of such individual; (B) a record of such an impairment; or (C)

Justice Anthony Kennedy's majority opinion in *Lawrence v. Texas*. 539 U.S. 558, 578–79 (2003), discussed *infra* note 150.

[8] The Principle is intended to be "holistic" in nature—to inform the understanding and application of the law in society.

[9] United Nations Convention on the Rights of Persons with Disabilities, Dec. 13, 2006, 2515 U.N.T.S. 3.

[10] *See* Carl Sagan, *Why We Need to Understand Science*, SKEPTICAL INQUIRER (Spring 1990), http://www.csicop.org/si/show/why_we_need_to_understand_science/.

being regarded as having such an impairment."[11] This definition provides an important sense of what constitutes a condition or impairment rising to the level of a legally defined disability.[12]

Legal classifications and the nuances of statutory language substantially affect the rights of disabled citizens. The 2008 Amendments to the ADA (2008 Amendments) retained the basic framework for the definition of disability, but broadened the rules of construction to expand the definition.[13] To fall within the ambit of the ADA, an individual's impairment must still meet the legal definition for disability. The 2008 Amendments allow for more liberal construction of impairments and conditions.[14] The broad coverage of the current ADA enables the inclusion and promotion of the disabled into activities of daily life.[15]

B. Being Disabled in a Functional World

Disability is inescapable and often inevitable; impairments and conditions, especially those which fall under the term "disability," may affect any person at any time.[16] According to the World Report on Disability, "[m]ore than a billion people are estimated to live with some form of disability, or about 15% of the world's population (based on 2010 global population estimates)."[17] The Pan American Health Organization has also estimated that 1 in 10 persons have some form of disability in the Americas.[18] Specifically, there were some 54 million citizens with disabilities in the U.S. in 2000.[19] Because of the prevalence of conflicts and increasing aging of the world, among other factors,

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[11] 42 U.S.C. § 12102(1) (2006).

[12] Given the broad definition of disability, the federal government estimates that, "12.9% of people between 21 and 64 years of age and 30% of those between 64 and 75 . . . have a disability." Leslie Neal-Boylan, Kristopher Fennie & Sara Baldauf-Wagner, *Nurses with Sensory Disabilities: Their Perceptions and Characteristics*, 36 REHABILITATION NURSING 25, 2011 WLNR 1301033 (Jan. 1, 2011) (using Bureau of Labor Statistics data). Disability—whether obvious or whether self-identified—is likely to be prevalent in the twenty-first century.

[13] 42 U.S.C. § 12102(1) (2006 & Supp. III 2009).

[14] *See* MyLinda K. Sims, *When Pigs Fly: Does The ADA Cover Individuals with Communicable Diseases Such as Novel H1N1 Influenza, "Swine Flu"*? 37 N. KY. L. REV. 463, 465–69 (2010) (comparing the definition of disability in the original ADA with the definition after the 2008 Amendments).

[15] *See, e.g.*, Joshua L. Friedman & Gary C. Norman, *The Paralympics: Yet Another Missed Opportunity for Social Integration*, 27 B.U. INT'L. L.J. 345, 351–52 (2009) (discussing the ADA definition after the 2008 Amendments in the context of daily activities).

[16] *See, e.g.*, David Ferleger, *Federal Disabilities and the Law: The Evolution of Independence*, 57 FED. LAW. 26, 27 (Sept. 2010) (discussing the prevalence and occurrence of disability).

[17] WORLD HEALTH ORGANIZATION, WORLD REPORT ON DISABILITY 261 (2011), *available at* http://www.who.int/disabilities/world_report/2011/report.pdf [hereinafter WHO REPORT ON DISABILITY].

[18] PAN AMERICAN HEALTH ORGANIZATION, HUMAN RIGHTS & HEALTH: PERSONS WITH DISABILITIES 1 (2008), *available at* http://www.paho.org/english/dd/pub/10069_Disabilities.pdf.

[19] Dana Whitehead McKee & Deborah D. Fleischaker, *ADA and the Internet: Must Websites Be Accessible*, 33 MD. B.J. 34, 35 (Nov./Dec. 2000), *available at* http://www.msba.org/departments/commpubl/publications/bar_journ/v33/33vn6.asp.

disability is on the rise in the global community.[20] The increasing prevalence of disability can be seen in two subpopulations of persons at the forefront of the expansion in the incidence of disability: women and wounded warriors.

Data illustrates that women with disabilities constitute a significant proportion of overall persons with disabilities.[21] Globally there are 300 million women or girls who have some form of disability.[22] Women also constitute three-fourths of people with disabilities in low- and middle-income countries.[23] Data show that women with disabilities are more likely than not to be unemployed or underemployed, are likely to be poor, and are likely to be excluded from equal access to an array of services, supports, and systems provided by civil society, such as access to the scientific and technological innovation in healthcare goods and services.[24]

Likewise, wounded warriors, who are returning home to the U.S. in record numbers, require our attention.[25] Approximately, one percent of the U.S. population serves in the armed forces.[26] With the advancement of science and technology, wounded warriors are returning home from the battlefront where they might not have in previous wars.[27] Because of the changing nature of urban warfare, including close-quarters combat and the rise of incendiary devices, wounded warriors suffer from a variety of disabilities with differing levels of severity, requiring long-term social support and services for both themselves and their families.[28] The types of disabilities sustained by wounded warriors will have consequential effect on the healthcare system, including the need for

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[20] *See* WHO REPORT ON DISABILITY, *supra* note 17, at 34–35.

[21] *See, e.g., id.* at tbl.2.1.

[22] *Women With Disabilities,* U.S. AGENCY ON INT'L DEV., http://transition.usaid.gov/our_work/cross-cutting_programs/wid/disability/wwd_statistics.html (last visited Jan. 18, 2013).

[23] *Id.*

[24] Stephanie Ortoleva, *Women with Disabilities: The Forgotten Peace Builders*, 33 LOY. L.A. INT'L & COMP. L. REV. 83, 92–93 (2010).

[25] *See, e.g., Number of Disabled U.S. Veterans Rising*, CBS NEWS, Feb. 11, 2009, http://www.cbsnews.com/2100-201_162-4086442.html?pageNum=1&tag=page [hereinafter *Disabled Vets Rising*].

[26] Thomas J. Ridge, National Organization on Disability, *Standing Up for Veterans: A National Security Imperative*, NAT'L ORG. ON DISABILITY (Nov. 11, 2011), http://www.nod.org/news/harris_interactive_survey_largest_min. *See also* U.S. CENSUS BUREAU, CENSUS ATLAS OF THE US 201 (2000), *available at* http://www.census.gov/population/www/cen 2000/censusatlas/pdf/12_Military-Service.pdf (reporting that, in the 2000 census, taken prior to the 9/11 attacks, about 0.5% of the U.S. population over the age of 18 was active military and that about 12.7 % was veterans).

[27] *Disabled Vets Rising*, *supra* note 25.

[28] *See Legislative Presentation of the Paralyzed Veterans of America, Air Force Sergeants Association, Blinded Veterans Association, AMVETS, Gold Star Wives, Fleet Reserve Association, Military Officers Association of America and the Jewish War Veterans: Joint Hearing on Legislative Priorities of Various Veterans Service Organizations Before the S. Comm. On Veterans' Affairs*, 112th Cong. (2012) (statement of Alan E. Falk, National Commander, Jewish War Veterans of the USA, discussing the needs of veterans and their families), *available at* http://www.veterans.senate.gov/hearings.cfm?action=release.display&release_id=57d7ee60-a871-4636-ac26-5b7d5d1eb15f.

hospice care many years into the future.[29] As such, it is more critical than ever to ensure that disability is fully and actively accommodated within society.

C. Disabilities in an Inaccessible World

An inaccessible Information Age constitutes a barrier for many individuals with disabilities to living, learning, and earning. In an era where bits and bytes are beamed instantly back and forth, and then are translated into readable and useable information, there is no reason why these barriers should exist. Yet, people with disabilities are bereft of equal opportunities to participate in the life of society. In the next part of this Article, the authors argue that such exclusion is purely unnecessary and adherence to the Norman/Friedman Principle will help shift the conversation about information access in an evolving technological context.

With most entertainment and even office functions (such as word processing or meetings) shifting to online platforms, accessibility issues will continue to worsen if society does not adhere to or expand affirmative civil rights obligations.[30] Specifically, people with sensory disabilities have problems accessing the tools of the Information Age. For example, it is obstructive for a blind person when websites are not designed to function properly with a text-to-speech screen-reader.[31] Moreover, blind and deaf individuals will still encounter a ticket clerk at the film theatre or playhouse who might object to a request for audio description or captioning.[32] Similarly, a disabled person might want to enjoy the flotsam of reality television.[33] The ability of disabled persons to view television is sometimes not an easy task, unless there is a strong commitment to audio description and captioning on the part of society.[34] Consider a step further—the disabled, like others, aspire to be in good

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[29] *See, e.g.*, Andrew Taylor, *House Approves More Money for Veterans' Care*, THE VIRGINIAN-PILOT, June 1, 2012, at A5, *available at* http://www.highbeam.com/doc/1G1-291646062.html (discussing increasing funding for veterans' care).

[30] *See generally* Hayley M. Koteen, *Ending the Disconnect for the Deaf Community: How Amendments to the Federal Regulations Can Realign the ADA With Its Purpose*, 29 CARDOZO ARTS & ENT. L.J. 425, 428 (2011) (discussing the origin and scope of the original ADA and the accessibility problems related to information technology).

[31] *See, e.g.*, Thomas R. Burke, *Starting and Managing an Online Business*, *in* 1 INTERNET L. & PRAC. § 5:1 (2012) (discussing allegations in a 1999 lawsuit—later dismissed—that AOL discriminated against the blind by not having software that was compatible with screen-readers).

[32] This experience, and a few other examples within this Article, is based in part on the personal experiences of one or both of the authors. As previously stated, both authors are persons with disabilities—one is blind and the other is deaf.

[33] *See, e.g.*, *Here Comes Honey Boo Boo* (TLC: A Discovery Company 2012-present) (a reality television show about a child beauty pageant participant and her family living in rural Georgia).

[34] *See generally* Joshua S. Robare, Note, *Television for All: Increasing Television Accessibility for the Visually Impaired Through the FCC's Ability to Regulate Video Description Technology*, 63 FED. COMM. L.J. 553 (2011) (discussing the regulation of captioning activities).

health; this may include use of a gymnasium which may have no captioned televisions. Exercise opportunities in an ever-increasing technology-influenced world are notably poor.[35]

Additionally, people with sight disabilities often encounter difficulty accessing the Internet if they utilize a screen-reader.[36] Many commercial-oriented websites utilize HTML features, such as flash or graphics, to present a series of images and other information describing products and services. While this is important information, a screen-reader may not translate this information into speech if these features are not structured to function with assistive technology.[37] If a document has a PDF format without coding for screen-readers it will often be inaccessible to an individual using a screen-reader.[38] Individuals who identify as deaf or hard-of-hearing also have significant obstacles to accessing auditory-based information on the Internet or other forms of modern digital technologies.[39] Unless content from multimedia sources (such as Netflix, Amazon Instant Video, YouTube, or Google Play video content) is closed captioned or subtitled, the content is often rendered inaccessible.[40] This does not mean that all forms of technological innovation are detrimental; in fact, technology can also play a large role in providing access to areas previously inaccessible.[41]

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[35] *See, e.g.*, Janet E. Lord & Michael Ashley Stein, *Social Rights and the Relational Value of the Rights to Participate in Sport, Recreation, and Play*, 27 B.U. INT'L L.J. 249, 265–66, 270 (2009) (discussing the difficulties of disabled individuals participating in recreational activities); *see also* Darren Burton & Lee Huffman, *Exercising Your Right to Fitness: An Overview of the Accessibility of Exercise Equipment*, 8 ACCESSWORLD, no. 6, Nov. 2007, *available at* http://www.afb.org/afbpress/pub.asp?DocID=aw080603.

[36] For instance, "streaming" animation for a website, in the experience of one of the two authors who is blind, is sometimes tricky with a screen-reader. The Internet should be a place of public accommodation subject to affirmative civil rights protections, such as the ADA. *See, e.g.*, Burke, *supra* note 31 (discussing cases involving the issue of whether electronic "spaces" are places of public accommodation within the meaning of civil rights laws); *see also Screen Readers*, AM. FOUND. FOR THE BLIND, http://www.afb.org/prodbrowsecatresults.asp?catid=49 (last visited Dec. 31, 2012) (describing what a screen-reader is and the questions a user should ask to assess accessibility).

[37] Ryan Campbell Richards, Note, *Reconciling the Americans with Disabilities Act and Commercial Websites: A Feasible Solution?* 7 RUTGERS J.L. & PUB. POL'Y. 520, 549 (2010).

[38] RICHARD E. PETTY, INDEP. LIVING RESEARCH UTILIZATION AT THE INST. FOR REHAB. AND RESEARCH, TECHNOLOGY ACCESS IN THE WORKPLACE AND HIGHER EDUCATION FOR PERSONS WITH VISUAL IMPAIRMENTS: AN EXAMINATION OF BARRIERS AND DISCUSSION OF SOLUTIONS app. E, at 4 (2012)

[39] Allison Landwehr, *Amending the Digital Divide*, 23 SYRACUSE SCI. & TECH. L. REP. 90, 92–93 (2010).

[40] *See* Part IV.D.2.

[41] Researching and writing scholarly works would have been difficult in a time before screen-readers, although there are limited examples of successful scholars and authors finding creative solutions to pre-ADA hurdles, such as the blind poet Milton, who purportedly chained his assistants to help him work. *See, e.g.*, David Ferleger, *supra* note 16, at 27–28 (discussing persons with disabilities throughout history). That is not to suggest that leading disabled scholars never existed—they did. *See, e.g.*, Marc Maurer, *Jacobus tenBroek: Scholar and Leader*, 54 BRAILLE MONITOR, no. 7, July 2011, *available at* https://nfb.org/Images/nfb/Publications/bm/bm11/bm1107/bm110702.htm (documenting the life and achievements of Professor tenBroek, a founder of the National Federation of the Blind, and more importantly, a distinguished scholar). However, technological innovation, such as the screen-reader, is a tremendous advancement in the equality of opportunity for the disabled.

In sum, disability is more than an issue about the substantive legal framework that is or should be in place to provide a range of civil and human rights. If full integration is the goal of our republic, disability rights also must be associated with the accessibility of information and technology.

D. The Hastening Pace of Technological Advancements

Literary works, such as *A Connecticut Yankee in King Arthur's Court*, should remind the reader that, what may constitute alchemy or magic for one generation, constitutes the indispensible tools of everyday existence for another.[42] Whether one understands technological developments as magic or as indispensable tools, their impact on society is clear—as technology is often ahead of legal and other institutions, innovation in science and technology may help or hinder the affirmative rights of many individuals, including the disabled.[43] As such, the authors will discuss the development of relevant technology and then explore how such developments have benefited the disabled. When the technological developments discussed below are fully compared with the lack of accessibility experienced by the disabled, the stage will then be set for a discussion of the Norman/Friedman Principle, including recommendations put forward by the authors.

1. A Historical Overview

Innovations in science and technology have a commonality: their pace of rapid development and incorporation into the populace. Some have argued that, since the early 1970s, the world has been experiencing a wave of development "centered on all the technologies and innovations emerging from the computer chip."[44] To this end, innovations in science and technology during this timeframe have been remarkable: the computer, social media advancements (such as Facebook), and so-called "smart phones."[45] Moreover, these innovations are increasing the kinds of technologies incorporated into daily activities; these technologies may

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[42] *Cf.* Twain, *supra* note 1.

[43] Rita M. Lauria & George S. Robinson, *From Cyberspace to Outer Space: Existing Legal Regimes Under Pressure from Meta-Technologies*, 33 U. LA VERNE L. REV. 219, 223 (2012) ("However, legal systems always lag in response to the breaking wave of effect that rushes over society and culture from the "magic" of sufficiently advanced technologies.").

[44] *See, e.g.*, Kenneth B. Taylor, *In the Search of Our "Better Angels" of Our Future*, 46 FUTURIST 23, 25 (2012).

[45] *See, e.g.*, Michal Raz-Chaimovich, *Meir Brand: Man and Machine Will Merge*, GLOBES ONLINE, Oct. 30, 2012, http://www.globes.co.il/serveen/globes/docview.asp?did=1000794175&fid=1724 (discussing technological advancement).

even become part of our very bodies.[46]

Seemingly, scientific and technological change may originate and advance in unexpected ways. For instance, Braille, the indispensable reading tool of the blind, initially developed in the French army, later transferred to the civilian sector.[47] Similarly, a top-secret research agency of the Department of Defense played a major role in the invention of the Internet.[48] The social media platform Facebook is one such example of technological change inspired by developments in the university environment.[49]

The Internet, and other features of the Information Age it embodies, is a primary and indispensable facet of everyday life. In 1995, about 16,000 persons utilized the Internet.[50] In 2001, this usage rate increased to 513 million persons.[51] By 2007, over 1.3 billion people utilized the Internet, a 21 % increase from the previous year.[52] With such increased usage, and the advent of smart phones enabling immediate access to the Internet, corporations are becoming hard-pressed to develop the latest and greatest technologies to appease the masses. The Internet has dramatically changed society and will continue to affect society—it is too important for leaders not to ensure universal access to it.[53]

Regardless of the rate of change and where it originates, technology is globalizing humanity, bringing all of us closer through a network of information about which Gutenberg could have only dreamed. The printing press arguably democratized knowledge by taking the information access that was solely in the hands of the privileged few and spreading it to the masses. An accessible Information Age may serve a similar purpose—namely, it could be an equalizer among the able-bodied and the disabled. As one scholar has noted, "the Internet is at once a world-wide broadcasting capability, a mechanism for information

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[46] *Id.*

[47] *See* RUSSELL FREEDMAN, OUT OF DARKNESS: THE STORY OF LOUIS BRAILLE 34–35, 46, 58 (1997); *see also Braille History*, ENABLING TECH., http://www.brailler.com/braillehx.htm (last visited Oct. 30, 2012).

[48] *See, e.g.*, Susan P. Crawford, *Internet Think*, 5 J. TELECOMM & HIGH TECH. L. 467, 469–71 (2007) (discussing the Advanced Research Projects Agency Network (ARPANET), a predecessor to the Internet.); *see also* Steve Fritzinger, *How Government Sort of Created the Internet*, THE FREEMAN (Oct. 3, 2012), http://www.fee.org/the_freeman/detail/how-government-sort-of-created-the-internet/#axzz2GfRQh9mP (discussing the role of the Department of Defense in creating networking that led to the Internet).

[49] *See, e.g.*, *Facebook Inc.: Overview*, NYTIMES.COM, http://topics.nytimes.com/top/news/business/companies/facebook_inc/index.html (last visited Dec. 12, 2012) ("Created in 2004 by Mark Zuckerberg in his dorm room at Harvard, Facebook grew from being a quirky site for college students into a popular platform that is used to sell cars and movies, [etc.]").

[50] INTERNET WORLD STATS: INTERNET GROWTH STATISTICS, http:// www.internetworldstats.com/emarketing.htm (last visited Jan. 2, 2013).

[51] *Id.*

[52] *Id.*

[53] The Maryland Department of Disabilities is a vocal advocate on ensuring the accessibility of the Internet. *See, e.g.*, Remarks of Andrew D. Levy, Chair, Maryland Commission on Disabilities, Remarks at the Maryland Celebration of the 22nd Anniversary of the ADA (July 26, 2012), *available at* http://www.browngold.com/wbcntntprd1/wp-content/uploads/Levy-ADA-celebration-remarks-2012-2.pdf.

dissemination, and a medium for collaboration and interaction between individuals and their computers without regard for geographic location."[54] As such, this important equalizing function will only be realized if the Internet is fully accessible.

2. *Disabled Access to Information*

There are many hasty generalizations and common stereotypes regarding how disabled people access information. A common misunderstanding is that all blind people utilize Braille or that Braille is the sole accommodation for accessing information.[55] Believing that blind people, or other populations of disabilities, do not utilize the computer including the Internet is unreasonable.[56] Just as one example, one of the authors is blind. He utilizes a program that verbalizes electronic programs such as email and word processing into speech, so that he can research, review materials, and even write this article.[57] Even those who are more aware of these issues may not be completely familiar with the full range of accommodations for reading and accessing information available to individuals with sensory-related disabilities.

There is a broad range of emerging technologies that aid or enhance the daily lives of the disabled. For example, visually impaired individuals may access information by way of synthetic speech or through captioning.[58] For example, blind individuals often utilize what is called a screen-reader, which provide synthetic speech, reading aloud the contents of a computer screen.[59] Several companies, including Freedom Scientific, hold a substantial share of the market for screen-reading technology.[60] The proprietary software of Freedom Scientific, called

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[54] Patricia A. Broussard, *Now You See It Now You Don't: Addressing the Issue of Websites Which Are "Lost in Space"*, 35 OHIO N.U. L. REV. 155, 163–64 (2009).

[55] In the understanding of one of the authors, a leader in the blindness community, it is generally accepted that most people with various levels of severity of vision loss do not know Braille. This phenomenon is troubling in light of the argument of many leaders in the blindness civil rights movement that Braille is condition precedent to personal and professional life success. *See, e.g.*, Mitch Pomerantz, *President's Message: Employment of the Blind Today and Tomorrow, Part II*, THE BRAILLE FORUM (April 2012), *available at* http://www.acb.org/node/828.

[56] *See* Jacquie Brennan, *Is Your Law Firm Website Accessible?*, 71 TEX. B.J. 264, 265 (2008) (discussing the variety of ways that persons with disabilities use computers and access the Internet).

[57] *See, e.g.*, Kenneth Hirsh, Sharon Krevor-Weisbaum, Gary Norman, & Bryan Rapp, Transcript, *Technology: Are You (And Your Vendors) Ahead of, Behind, or on the Curve?* 19 AM. U. J. GENDER SOC. POL'Y & L. 1189 (2011) [hereinafter *Am. U. Technology Discussion*]. One of the present authors delivered remarks as part of a panel at the bi-annual disability law and policy conference hosted by Washington College of Law, American University. The remarks emphasized the importance of an ongoing dialogue with a range of actors in society. The authors have co-founded the Mid-Atlantic Lyceum as a platform for such dialogue.

[58] Brennan, *supra* note 56, at 265.

[59] *Id.*

[60] *See Screen Reader User Survey #2 Results*, WEBAIM.ORG, http://webaim.org/projects/screenreadersurvey2/ (last visited Jan. 2, 2012) (65% of respondents reported using the JAWS software).

JAWS, has a rich and complex set of coding that allows for manipulation of the computer through alternative means.[61] With a screen-reader, a blind person will manually input the information.[62] There is also software for the visually impaired that magnifies the screen's contents.[63] Moreover, for computer users who are both blind and hearing-impaired, refreshable Braille devices can read text from a website and convert it into Braille characters that the user can touch.[64] An array of additional accommodations is available to those with other disabilities.[65]

Hearing impaired individuals may be aided by technologies such as video interpreting services.[66] The Department of Justice (DOJ) defines this technology as "a video phone, video monitors, cameras, a high-speed Internet connection, and an interpreter."[67] The video phone allows a user to view and sign to an interpreter who can see the user and speak with the recipient of the call.[68] The video monitor can display a split screen of two live images, with the interpreter in one image and the individual who is deaf or hard-of-hearing in the other image.[69]

For the blind, even books and newspapers are migrating to the Internet. The National Library Service for the Blind and Physically Handicapped, a Division of the Library of Congress, operates an online book site called Braille and Audio Reading Download (BARD).[70]

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[61] *JAWS for Windows Screen Reading Software*, FREEDOMSCIENTIFIC.COM, http://www.freedomscientific.com/products/fs/jaws-product-page.asp (last visited Jan. 2, 2013).

[62] *See* Brennan, *supra* note 56, at 265 ("[T]here must be a great deal of contrast between the text and the background. For screen readers, it's important to add tags, often called alt-text (for alternative text), which provides verbal information about things on the screen that are provided visually. For example, if there are photographs or graphics on the website, alt-text would provide information about what is in the picture, which the screen reader would then verbalize. Alt-text doesn't show up on the website at all and is 'seen' only by screen readers.").

[63] *Id.*

[64] *See, e.g.*, Darren Murph, *N.C. States' Refreshable Braille Display Could Revolutionize Reading for the Blind*, ENGADGET.COM, Apr. 1, 2010, http://www.engadget.com/2010/04/01/nc-states-refreshable-braille-display-could-revolutionize-readi/.

[65] Brennan, *supra* note 56, at 265

[66] Douglas M. Pravda, *Understanding the Rights of Deaf and Hard of Hearing Individuals to Meaningful Participation in Court Proceedings*, 45 VAL. U. L. REV. 927, 939–40 (2011); *see id.* at 935 ("The ADA defines 'auxiliary aids and services' to include 'qualified interpreters or other effective methods of making aurally delivered materials available to individuals with hearing impairments.' The DOJ recently amended its regulations implementing Title II of the ADA. The amended regulations, which took effect March 15, 2011, set forth a number of specific examples of 'auxiliary aids and services,' including qualified interpreters on-site or through **video** remote interpreting (VRI) services; note takers; real-time computer-aided transcription services; written materials; exchange of written notes; telephone handset amplifiers; assistive listening devices; assistive listening systems; telephones compatible with hearing aids; closed caption decoders; open and closed captioning, including real-time captioning; voice, text, and **video**-based telecommunications products and systems, including text telephones (TTYs), videophones, and captioned telephones, or equally effective telecommunications devices; videotext displays; accessible electronic and information technology; or other effective methods of making aurally delivered information available to individuals who are deaf or hard of hearing." (citations omitted)).

[67] 28 C.F.R. § 35.104 (2012).

[68] Pravda, *supra* note 66, at 939–40.

[69] *Deaf Get Chance to 'Talk' on Phone*, CBSNEWS.COM, Feb. 11, 2009, http://www.cbsnews.com/2100-205_162-595942.html.

[70] *Bringing Joys of A Great Book to Blind and Visually Impaired Readers*, RICHMOND TIMES-DISPATCH, Sept. 18, 2012, http://www.timesdispatch.com/online_features/community_cares/

Patrons, many of whom are legally blind or have other related disabilities, are able to download books to a flash drive or to the computer, allowing them to enjoy the content.[71] Patrons may also read books under the auspices of the National Library Service by usage of digitally recorded and stored books on flash cartages that a specialized machine will play for them.[72] Finally, the National Federation of the Blind provides, free-of-charge, a newspaper and magazine service called Newsline, a telephonic-based program with electronic and e-mail functions.[73]

Furthermore, this article would not be complete without a mention of accessible telecommunications devices, or smart phones, such as the iPhone. Our current smart phones provide remarkable information access, storage, and retrieval. These current devices provide an array of functions, many of which are accessible and helpful for people with disabilities because of text-to-speech applications (or "apps") that are downloadable to the phones.[74] Scanning and verbalizing currency to the blind is but one of the myriad functions that these devices facilitate.[75] Smart phones also allow people to monitor their health and transmit this important data to healthcare providers.[76]

At a minimum, technological developments continue to spur inclusiveness in society. However, their utility depends on a society that is committed to narrowing the road to inclusion. For example, a screen-reader program like JAWS can verbalize an Internet site, only when the site is rendered accessible, meaning that it has been constructed to meet accessibility standards, guidelines, and parameters. The initial costs to ensure such accessibility are generally small if the issue is handled during the website's development.[77] Costs can increase if the website must be retrofitted to provide for accessibility.[78] While there is a policy framework providing guidelines for the construction of accessible

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bringing-joys-of-a-great-book-to-blind-and-visually/article_d6d9ffa6-de2d-5c62-987a-276b47b76ce3.html.

[71] *See id.* (describing BARD).

[72] *Id.*

[73] *See* Matthew Bieniek, *Newsline Gives Access to Newspapers*, CUMBERLAND TIMES-NEWS, Aug. 22, 2011, http://times-news.com/local/x531750710/Newsline-gives-blind-access-to-newspapers.

[74] *See, e.g.*, Natasha Baker, *Georgie App for the Blind Helps Visually Impaired Android Users Navigate Everyday Life*, HUFFINGTON POST, July 23, 2012, http://www.huffingtonpost.com/2012/07/23/georgie-app-blind_n_1694056.html?utm_hp_ref=technology.

[75] *E.g.*, Elizabeth Tyler, *No More Missing Money: New App Allows Blind People to "See" Their Dollars*, TIME NEWSFEED, March 11, 2011, http://newsfeed.time.com/2011/03/11/no-more-missing-money-new-app-allows-blind-people-to-see-their-dollars/.

[76] Sherry Boschert, *Star Trek Tricorders Coming to Medicine*, INTERNAL MED. NEWS, Sept. 15, 2012, at 39 (this feature is particularly important in the case of diabetes, which is a leading cause of blindness).

[77] Kel Smith, *The Missing Link: Understanding Web Accessibility*, 53 NO. 3 PRAC. LAW. 31, 32 (2007) ("website accessibility is a fairly exact science and easily accomplished, provided that early in the process, there are time and resources dedicated to compliance").

[78] *Id.* at 34.

websites,[79] many still do not understand the need for accessibility, and therefore, people with disabilities can be effectively shut out from accessing the Internet.[80]

Thus, the need to have an accessible society is seemingly achievable and is also self-evident. Today, the problem is not solely the lack of affirmative legal obligations on actors in society; it is also a lack of an affirmative commitment to creating an accessible world—namely, development of technology that is affordable, accessible, and useable by the disabled to advance compliance with those obligations. Thus, to further this discussion, this Article will shift to discussing the Norman/Friedman Principle, arguments for the Principle, and measures to be advanced in furtherance of the Principle.

III. THE NORMAN/FRIEDMAN PRINCIPLE

A. Federal Law and the Norman/Friedman Principle

As discussed thus far in this Article, technological innovation may advance or inhibit the opportunities of the disabled. Promoting, fostering, and creating a world open to technological innovation, while also safeguarding against negative side effects of that innovation requires a balance.[81] In the past, actors in society utilized some scientific and technological advances in misguided and detrimental ways, such as in the institutionalization and sterilization of those alleged to be insane or

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[79] *See generally id.* at 34 ("Those who published the content, however, wanted more options in terms of colors, fonts, and imagery. They wanted to format the text in various ways, add a picture, and draw lines and shapes. They began to manipulate HTML into presentation styles that weren't intended for primitive browsers. Because Internet software at the time wasn't adaptable to these highly personalized methods, page display varied from one computer to another. Web design as we know it had sprouted, and it was a mostly unpredictable craft with erratic results. . . . The needs of the disabled user were jettisoned in favor of bloated, poorly coded pages that looked nice but lost cohesion when read by speech readers. Multimedia capabilities such as sound and video, with no governing standards to regulate their use, left disabled users further recessed on the scope of priorities. An interesting thing happened in the next decade, however. . . . [T]he 'Web standards' movement[ ]resulted in lighter pages that were easier to manage. A number of free, compliant-standard browsers cropped up: Mozilla Firefox, Apple's Safari, and Opera. The focus was back on content, not presentation, and that resulted in more accessible pages. As of this writing, the Internet is converting back to an all-text model, only this time with the same potential for visual appeal that creators of non-compliant websites enjoy.").

[80] *See generally Am. U. Technology Discussion, supra* note 57.

[81] *See, e.g.*, George P. Smith II, *Law, Medicine, and Religion: Toward a Dialogue and a Partnership in Biomedical Technology and Decision-Making*, 21 J. CONTEMP. HEALTH L. & POL'Y. 169, 175–76 (2005) ("[I]t will be seen that, far from being antagonistic to law and medicine, religion and religious principles can stabilize the field of biomedicine and serve additionally as vectors in shaping both ethical and moral constructs for decision making. In turn, each of these three disciplines complements and strengthens what should be the ultimate goal of the state: to secure the happiness, spiritual tranquility, and well-being of its citizens. This purpose is, in turn, advanced and enhanced by safeguarding the genetic well-being and general health of its citizens.").

the medical experimentation on those alleged to be "defective."[82] In light of such practices in American history, imbuing science with both a moral compass and a commitment to affirmative civil and human rights must be a priority both here in the U.S. and on an international level.[83]

The passage of the ADA in 1990 ushered in new affirmative protections for people with disabilities in, among other areas, public accommodation.[84] The statutory scheme preceded the Internet revolution of the 1990s, and thus failed to account for a new public forum: the digital world. As Massachusetts Representative Edward Markey wrote, "two decades ago, the ADA mandated physical ramps into buildings. Today, individuals with disabilities need online ramps to the Internet so they can get to the Web from wherever they happen to be."[85]

Congress passed the ADA, a landmark piece of legislation, as an attempt to further civil rights aspirations for disabled individuals.[86] President George H. W. Bush signed the ADA into law on July 26, 1990.[87] The ADA's five titles encompass an array of public services, venues, and goods of private and governmental actors in an attempt to improve civil rights protections for people with disabilities.[88] Congress

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[82] Demonstrating early 20th Century prejudice, Justice Holmes stated, in the 1927 case of *Buck v. Bell* that "three generations of imbeciles are enough" in justifying the Court's decision to allow sterilization of a woman with cognitive disabilities. *See* 274 U.S. 200, 207 (1927). While compulsory sterilization of women with disabilities is certainly no longer sanctioned as a form of the community's right to defend itself from public health epidemics, as was suggested in *Buck v. Bell*, societal misconceptions about the sexual rights of persons with disabilities persist. *See generally* Holly Anne Wade, *Discrimination, Sexuality, And People With Significant Disabilities: Issues of Access and the Right to Sexual Expression in the United States*, 22 DISABILITY STUD. Q. 9 (2002), *available at* http://www.dsq-sds.org/article/view/369/485 ("At the turn of the [twenty-first] century, many individuals with significant disabilities began to realize their dreams and have their rights recognized. During the past two decades, the quality of life for individuals with significant disabilities has improved. As a result of groundbreaking litigation, disability rights legislation, advocacy on the part of persons with disabilities and their family members, people with disabilities can no longer be subjected to institutionalization, involuntary sterilization, over medication, over restraint, aversive interventions, and denial of health and other care. However, history continues to perpetuate misconceptions about sexuality and disability." (internal citations omitted)).

[83] As delegates convened in Washington, D.C., during July 2010, to commemorate the twentieth anniversary of the ADA, it was clear that more work is needed on a full range of ways in which the disabled may seek to live, learn, and earn equally. *See National Summit on DisABILITY Policy*, NATIONAL COUNCIL ON DISABILITY, http://www.neweditions.net/ncd2010/index.html (last visited Jan. 3, 2013). As one author can recall from the conference, which he attended as an Associate Civil Rights Commissioner, there was a generalized belief that more is needed, either through enforcement or other practice measures, to ensure greater access. The array of approaches discussed informally in a breakout session included dispute resolution, an important tool that can be used to address this issue. *See generally* Debra T. Berube & Gary C. Norman, *Improving Healthcare Access for People with Disabilities: A Call to Maryland's Leaders*, 45 MD. B.J. 2 (Mar./Apr. 2012) (how dispute resolution should be applied within the context of healthcare disparities of the disabled, whether because of a lack of education or outright discrimination).

[84] *See, e.g.*, Sims, *supra* note 14, at 464–65 (discussing the historical significance of the passage and reception of the ADA).

[85] *Markey Celebrates First-Year Milestone for Making 21st Century Tech Accessible to All*, MARKEY.HOUSE.GOV, Oct. 7, 2011, *available at* http://markey.house.gov/press-release/oct-7-2011-markey-celebrates-first-year-milestone-making-21st-century-tech-accessible.

[86] Sims, *supra* note 14, at 464–65.

[87] RUTH COLKER, THE DISABILITY PENDULUM: THE FIRST DECADE OF THE AMERICANS WITH DISABILITIES ACT 5 (2005).

[88] *Id.* at 17–21 (giving an overview of the ADA's language and structure); *cf.* 135 Cong. Rec.

intended the ADA to provide a broad mandate for eliminating invidious discrimination, such that persons with disabilities would no longer be excluded from the mainstream of society.[89] However, more than 20 years after the enactment of the ADA, its goals have not been fully realized[90] and new barriers are emerging in the Information Age. In this context, it is imperative that society adopt the Norman/Friedman Principle, which will help to unify existing laws and ensure that actors in society are committed to realizing the mandate of the original ADA and the aspirations it embodied.

Specifically, Congress intended that the ADA, a comprehensive statutory scheme, would eradicate discrimination by employers (Title I), state and local governments (Title II), and private venues or places of public accommodation (Title III).[91] At the time when Congress passed the ADA, the Internet was still a few years from its robust expansion into the American psyche.[92] Naturally, when Congress drafted the ADA, it may not have anticipated today's digital landscape.

In the early 1990s, then-Senator Al Gore had just pushed through legislation effectively forming the "Internet superhighway."[93] At the time, the dot-com bubble had not yet started. Google had not yet been invented by Larry Page and Sergey Brin.[94] Apple had just released its first portable computer model.[95] Prodigy, Compuserve and AOL were the biggest names in the game.[96] Starbucks had just gone public.[97] The Internet boom was just starting; these were heady, new, and unexplored frontiers.

While the ADA did not help achieve Internet accessibility, amendments to the Rehabilitation Act of 1973, a predecessor to the ADA, impose a requirement that websites and other information technology owned, operated, or controlled by the government, be accessible to people with sensory disabilities.[98] Section 508 of the

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19804 (1989) (statement of Sen. Orrin Hatch).

[89] *Id.*

[90] *See generally Americans With Disabilities Act At 20—Celebrating Our Progress, Affirming Out Commitment: Hearing before the S. Comm. on the Constitution, Civil Rights, and Civil Liberties*, 111th Cong. 39-41 (2010) (statement of Dick Thornburgh, Former U.S. Att'y Gen.), *available at* http://judiciary.house.gov/hearings/printers/111th/111-110_57559.pdf.

[91] COLKER, *supra* note 87, at 2–3.

[92] *See* JANET ABBATE, INVENTING THE INTERNET 181, 218 (1999) (the Internet began to be widely available to the public in the 1990s and its popularity grew through the decade).

[93] *See* Ryan Singel, *The Internet Gets a Hall of Fame (Yes Including Al Gore)*, WIRED, Apr. 25, 2012, *available at* http://www.cnn.com/2012/04/24/tech/web/internet-hall-of-fame/index.html.

[94] *Our History in Depth*, GOOGLE, http://www.google.com/about/company/history/ (last visited Jan. 3, 2012).

[95] *Timeline: Apple Milestones and Product Launches*, REUTERS, Mar. 2, 2011, *available at* http://www.reuters.com/article/2011/03/02/us-apple-timeline-idUSTRE72170T20110302.

[96] *See* Dr. Anthony Curtis, *The Brief History of Social Media*, UNC PEMBROKE, http://www.uncp.edu/home/acurtis/NewMedia/SocialMedia/SocialMediaHistory.html (last visited Jan. 4, 2013) (providing a timeline of the development of the Internet).

[97] *Forty Years Young: A History of Starbucks*, THE TELEGRAPH, May 11, 2011, http://www.telegraph.co.uk/finance/newsbysector/retailandconsumer/8505866/Forty-years-young-A-history-of-Starbucks.html.

[98] 29 U.S.C. § 794d(a)(1)(A)(ii) (2006). Section 504 of the Rehabilitation Act of 1973

Rehabilitation Act imposes an affirmative requirement on the federal government to ensure the accessibility of information technology.[99] Specifically, "[§] 508 requires the [federal government] to publish standards setting forth a definition of electronic and information technology and the technical and functional performance criteria necessary for accessibility for such technology."[100] In addition to tasking the federal government with implementing § 508 of the Rehabilitation Act, its amendments

> require[] that when federal agencies develop, procure, maintain, or use electronic and information technology, they shall ensure that the electronic and information technology allows federal employees with disabilities to have access to, and use of, information and data that is comparable to that enjoyed by federal employees who are not individuals with disabilities.[101]

Furthermore, § 508 requires a federal agency to provide comparable "access to, and use of, information and data" for disabled individuals (not just those who are federal employees) who are seeking information and/or services.[102] However, this important addition to the Rehabilitation Act has limited coverage in that it applies only to federal agencies and not to private businesses or the general public.[103] Congress has yet to address this shortcoming and the DOJ has abstained from using rulemaking to nudge federal law toward complete accessibility.[104] This is where the Norman/Friedman Principle is important.

As discussed herein, the ADA, and the Rehabilitation Act that preceded it, are important tools for protecting the disabled. Yet, it is difficult for statutory enactments to keep coterminous with technological developments. To return to the Norman/Friedman Principle, society must proactively implement existing protections and, when said protections are not realizing their intended purposes, create and implement affirmative legal obligations. In today's Information Age, individuals

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contained the first federal prohibition against discrimination on the basis of "handicap." *Id.* §§ 701–797b. The ADA borrowed substantially from the Rehabilitation Act. COLKER, *supra* note 87 at 10–15. Section 508 (electronic equipment accessibility) was added in the Amendments to the Rehabilitation Act in 1986. 29 U.S.C. §§ 701–797b (2006).

[99] *Id.* § 794d(a)(1)(A)(ii).

[100] Jonathan Bick, *Americans with Disabilities Act and the Internet*, 10 ALB. L.J. SCI. & TECH. 205, 210 (2000).

[101] *Id.*

[102] *Id.* at 210–11.

[103] *See* Eve Hill & Peter Blank, *Future of Disability Rights Advocacy and "The Right to Live in the World"*, 15 TEX. J. C.L. & C.R. 1, 18 (2009) (discussing the limited reach of § 508).

[104] *See* Accessibility of Web Information and Services of State and Local Government Entities and Public Accommodations, 75 Fed. Reg. 43460, 43465 (proposed July 26, 2010) (codified at 28 C.F.R. pts. 35, 36) ("It is the [Justice] Department's intention to regulate only governmental entities and public accommodations covered by the ADA that provide goods, services, programs, or activities to the public via Web sites on the Internet. Although some litigants have asserted that 'the Internet' itself should be considered a place of public accommodation, the Department does not address this issue here.").

with disabilities who are given the technological tools to succeed (or at least the accommodation that renders them equal to their fellow man) are more likely to do so, and society will be better for it.

B. Current Developments, Ethical Considerations, and Constitutional Considerations

1. An Ethical Note

Some principles of distributive justice weigh in favor of greater access for the disabled. On the whole, principles of distributive justice can be "best thought of as providing moral guidance for the political processes and structures that affect the distribution of economic benefits and burdens in societies."[105] Distributive justice analysis begins by establishing a criterion of distribution and then encouraging policies that allocate resources to persons in accordance with the guiding principle.[106] Some theories of distributive justice emphasize that the equality interests of disadvantaged minority groups should not be outweighed by the preferences of the majority to maintain the status quo.[107] Because persons with disabilities are a significant part of society, institutions should aim toward eliminating the practices that limit the opportunities of those affected by disability.

An antiquated view holds, however, that the disabled constitute the weaker part of the herd; they should be cast off as they provide no value to, but rather, impose financial and other burdens on society. [108] Scholar Andrienne Asch provides a simple but eloquent rebuttal to this argument:

> When commentators talk about the social costs of providing medical care, education, or supportive services for children and adults with disabilities, they neglect to point out that non-disabled children and adults require societal investment; that the costs of creating an accessible society must be borne

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[105] *Distributive Justice*, STANFORD ENCYCLOPEDIA OF PHILOSOPHY (last updated Jan. 2, 2013), http://plato.stanford.edu/entries/justice-distributive/.

[106] *See id.*

[107] *See id.* (discussing critiques of utilitarianism, particularly the theories of John Rawls).

[108] *See, e.g.*, Robert L. Burgdorf, Jr., *Restoring the ADA and Beyond: Disability in the 21st Century*, 13 TEX. J. C.L. & C.R. 241, 262–63 (2008) ("All too often, the courts have exhibited long-held, antiquated notions about disability and about the role of government in addressing disability. If courts think of people with disabilities as not capable of working, for example, anyone who is able to work must not be disabled. Similarly, access barriers were historically viewed by many people as being barriers because of an individual's disability, as opposed to the problem being the barrier itself. When a person with a mobility impairment could not cross a street with curbs, the person's disability was considered to be the reason, as opposed to recognizing that the design of the curb was deficient because it was done with only certain types of people in mind, when it could just as easily have been designed to be usable by all.").

> simply to assist the vast majority of people with non-diagnosable, non-genetic conditions that arise during a life; and that people with disabilities can contribute to the economy and to their families by virtue of the characteristics they have in addition to their impairments.[109]

Arguably, a just and modern society should commit itself to equally distributing the tools necessary for pursuing a prosperous life. Technology access is a tool that, as the authors have argued, facilitates equal opportunities for the living, learning, and earning of the disabled. When they are equally given the ability to do so, the disabled can provide, and have provided, a full range of economic value, community benefit, and relational value to society. While current federal law, such as the ADA, has had the positive effect of shifting, even if slowly, the conversation about the full equality of the disabled within society, additional legal protections, including potentially a constitutional right to equal information access, might further eradicate barriers that can have a discriminatory effects.

2. The Convention on the Rights of People with Disabilities

The United Nation's Convention on the Rights of People with Disabilities (the Convention) provides a strong legal framework, on an international scope, for protecting and promoting the inclusion and integration of the disabled in all facets of daily life. Some have said that, "[a]s the first human rights treaty of the twenty-first century, as well as the first legally enforceable United Nations instrument specifically directed at the rights of persons with disabilities, the Convention [has] usher[ed] in a new era of international human rights law and practice."[110] In that the Convention is consistent with the aspirations, and even the broad principles, of the ADA,[111] the United States must be the leader in this new era of disability awareness and adopt the Convention.

By 2001, disability rights emerged as a serious human rights issue on the agenda of the United Nations. The General Assembly established an ad hoc committee to consider proposals for a comprehensive and integral international convention to promote and protect the rights and dignity of persons with disabilities, based on the holistic approach in the

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[109] Andrienne Asch, *Disability Equality and Prenatal Testing: Contradictory or Compatible?*, 30 FLA. ST. U. L. REV. 315, 337 (2003) (internal citations omitted).

[110] Janet E. Lord & Michael Ashley Stein, *The Domestic Incorporation of Human Rights Law and the United Nations Convention on the Rights of Persons with Disabilities*, 83 WASH. L. REV. 449, 450 (2008)

[111] John B. Bellinger III, *Obama's Weakness on Treaties*, N.Y. TIMES (Dec. 18, 2012), http://www.nytimes.com/2012/12/19/opinion/obamas-weakness-on-treaties.html ("The disabilities convention was negotiated between 2002 and 2006, and 126 countries have since become full parties to it. Much of it is modeled on the Americans With Disabilities Act.").

work done in the fields of social development, human rights and non-discrimination and taking into account the recommendations of the Commission on Human Rights and the Commission for Social Development.[112]

The United Nations adopted the Convention and an Optional Protocol to implement it on December 13, 2006 in New York; the two documents entered into force on May 3, 2008.[113] For countries that adopt the Convention, it should provide a critical mechanism in contributing to the democratization of society (including with regard to technology access) for the disabled.[114]

The Convention and its Optional Protocol arguably provide "robust mechanisms to promote national compliance with and implementation of the obligations" set forth in the instruments.[115] While this Article cannot hope to catalog the many provisions of the Convention and its Optional Protocol, it is worth noting that these instruments are unique among international human rights instruments in that they have specific and strong provisions and language regarding national level monitoring.[116] The Convention, as noted below, has specific language concerning technology and information access. In short, Article 9 addresses accessibility, Article 21 addresses freedom of expression and opinion and access to information, and Article 24 addresses education.[117] Taken together, these provisions provide a remarkable right to information and technology access.

Specifically, Article 9 of the Convention is important in that its language imposes affirmative accessibility mandates, including development of early universal design standards and, where existing, the removal of physical and communication barriers.[118] In a related vein,

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[112] G.A. Res. 56/168, U.N. Doc. A/RES/56/168 (Feb. 26, 2002).

[113] Lord & Stein, *supra* note 110, at 450. From the perspective of the authors, the Convention and its Optional Protocol are critical. The provisions of these international instruments will, the authors hope, through their affirmative mandates such as equal access to healthcare (Article 25 of the Convention), galvanize the global community to recognize the affirmative human and civil rights of people with disabilities. *See* U.N. Secretariat for the Convention on the Rights of Persons with Disabilities, *Convention on the Rights of Persons with Disabilities*, UNITED NATIONS ENABLE, http://www.un.org/disabilities/default.asp?id=150 (last visited Jan. 7, 2013).

[114] *See* Lord & Stein, *supra* note 110, at 458 (discussing the Convention's mandates regarding technological access and the role of disabled persons in the creation of domestic accessibility legislation).

[115] Janet E. Lord, David Suozzi & Allyn L. Taylor, *Lessons from the Experience of U.N. Convention on the Rights of Persons with Disabilities: Addressing the Democratic Deficit in Global Health Governance*, 38 J.L. MED. & ETHICS 564, 569 (2010).

[116] *See id.* at 570 (listing instances of affirmative mandatory language).

[117] United Nations Convention on the Rights of Persons with Disabilities, Dec. 13, 2006, 2515 U.N.T.S. 3. The Optional Protocol was adopted at the same time, Optional Protocol to the Convention on the Rights of Persons with Disabilities, G.A. Res. 61/106, U.N. Doc. A/RES/61/106 (Dec. 13, 2006). The Convention's text, along with its drafting history, resolutions, and updated list of signatories and States Parties is posted on the United Nations Enable website: http://www.un.org/esa/socdev/enable/rights/convtexte.htm.

[118] *See* United Nations Convention on the Rights of Persons with Disabilities, Dec. 13, 2006, 2515 U.N.T.S. 3. (Article 9 requires participant states to provide access, which implicitly requires accessible design, and expressly says that the mandate "include the identification and elimination of obstacles and barriers to accessibility").

Article 19 of the Convention is no less important in that its language addresses the right of persons with disabilities to reside in the community, rather than in institutions excluded from the public, as has been the historical practice.[119] Arguably, the Convention is stronger in its goals of shifting people with disabilities from the institution to the community than previous international instruments. Under Article 19, supports and services must be furnished first in the furtherance of allowing people with disabilities to live in the community; institutionalization is a last resort.[120] Obviously, the development and robust adaptation of technology in the community must be at the heart of such supports and services.

Additionally, Articles 31 through 40 provide the monitoring and reporting mechanisms of the Convention, imposing affirmative obligations on state parties to actively comply with and implement the affirmative obligations and to involve people with disabilities in the process.[121] The Convention has a state reporting mechanism, and reports are submitted to a Committee on the Rights of Persons with Disabilities at the United Nations.[122] The Optional Protocol to the Convention provides for additional mechanisms to focus attention on human rights violations of state parties and to encourage state parties to address violations: namely, it provides for the transmittal of communications and the convening of investigatory inquiries regarding egregious violations, though the communications are often confidential and any resulting recommendations are not enforceable.[123]

At this stage of international advancement of disability rights, as shown by the work on the Convention, the United States must be a leader at the forefront of promoting technology access. The Convention will only apply to the United States if the Senate ratifies the instruments.[124] While the Senate Foreign Relations Committee favorably reported ratification of the instruments,[125] the full Senate failed to adopt the convention in December of 2012.[126] If the United States eventually

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[119] *See id.* ("States Parties to this Convention recognize the equal right of all persons with disabilities to live in the community, with choices equal to others, and shall take effective and appropriate measures to facilitate full enjoyment by persons with disabilities of this right and their full inclusion and participation in the community").

[120] *See id.* (persons with disabilities would have a basic right to choose where they live but facilities would be available).

[121] *Id.*

[122] *Id.*

[123] Lord, Suozzi & Taylor, *supra* note 115, at 570–71.

[124] *See* Jennifer Steinhauer, *Dole Appears, but G.O.P. Rejects a Disabilities Treaty,* N.Y. TIMES, Dec. 4, 2012, at A23 ("The measure, which required two-thirds support for approval, failed on a vote of 61 to 38."); *see also* U.S. CONST. art. II, § 2, cl. 2 (stating that the President has the power to make treaties with the advice and consent of the Senate).

[125] Melanie Brunson, *Update on the Convention on the Rights of Persons with Disabilities,* BRAILLE FORUM, October-November 2012, http://www.acb.org/node/1024 ("Then, on July 26, 2012, the Senate Foreign Relations Committee passed the Convention on the Rights of Persons with Disabilities (CRPD) by a vote of 13-6. Sen. John Kerry (D-Mass.), chairman of the foreign relations committee, said that he would prefer to get this treaty to the floor as soon as possible.").

[126] Steinhauer, *supra* note 124.

ratifies the Convention, then its broader provisions (consistent with the Norman/Friedman Principle) and its monitoring mechanisms will ensure the United States is held internationally accountable for any failures to abide by its principles.[127]

Should the United States adopt the Convention, its provisions may be a fulcrum for expanding the protection of the U.S. Constitution to include an affirmative right to technology access.[128] Such a right would arguably embody the Norman/Friedman Principle in that it supports utilizing or expanding existing legal instruments, based on reasonable interpretation, to more fully realize equality of opportunity.

3. Constitutional Considerations

This Article will now address possible constitutional bases for a right to information access, like that advanced by the Norman/Friedman Principle. This discussion will begin with a dichotomy note by Maryland State Senator Jamie B. Raskin during a question and answer session at the 2012 TenBroek Disability Law Symposium.[129] Senator Raskin, who is both a constitutional scholar and an elected representative, was asked whether he could point to a constitutional basis supporting a right to information access. In response, he noted that when the U.S. Supreme Court has addressed the right to information, it has found a so-called "negative right."[130] In other words, the Court has found violations of the First Amendment in instances where the government sought to limit or prohibit access to information.[131] As Senator Raskin further noted, however, the Court has never found an affirmative right to information in the Constitution.[132] The authors argue that such a right could potentially

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[127] For a good discussion of the reasons why the United States Senate should ratify the international instrument, *see e.g.*, News Release, U.S. Senate Foreign Relations Committee, Disability Rights Advocates Urge Ratification of Convention on the Rights of Persons with Disabilities (July 12, 2012), 2012 WLNR 14634956.

[128] *But see* Nick Fina & Roberta Golinkoff, Op-Ed, *Treaty Strikes Wrong Tone for Those with Hearing Loss*, NEWS JOURNAL (Wilmington, Delaware) (Aug. 23, 2012), 2012 WLNR 17841362 ("The relationship between treaty law and national constitutions and legal coda is a complex one. It is clear that treaties bind the countries that ratify them and can or must supersede domestic law. CRPD could result in erosion of the rights of many U.S. citizens who have hearing loss.").

[129] Maryland State Senator Jamin B. (Jamie) Raskin presented the "theme keynote address" at the 2012 Jacobus tenBroek Disability Law Symposium. *Disability Identity in the Disability Rights Movement*, NATIONAL FEDERATION OF THE BLIND (2012), https://nfb.org/law-symposium [hereinafter *Raskin Remarks*] (the referenced Q&A begins at 25:28 of Sen. Raskin's remarks). For biographical information of Maryland State Senator Raskin, *see* http://www.msa.md.gov/msa/mdmanual/05sen/html/msa14610.html.

[130] *Raskin Remarks*, *supra* note 129.

[131] *Cf.* City of Lakewood v. Plain Dealer Publ'g Co., 486 U.S. 750 (1988) (finding that a licensing law that allowed a mayor to limit the distribution of a newspaper to be an unconstitutional restriction on freedom of expression); City of Cincinnati v. Discovery Network, 507 U.S. 410, 431 (1993) (finding that a city's selective and categorical ban on the distribution, via newsrack, of "commercial handbills" is not consistent with the dictates of the First Amendment)

[132] *Raskin Remarks*, *supra* note 129. The federal government and several states have adopted some statutory form of a right to information access. *See, e.g.*, The Freedom of Information Act

be protected as one of the unenumerated rights guarded by the Ninth Amendment[133] and would be consistent with the practices and beliefs professed by several of the founding fathers.

The Constitution, amended twenty-seven times, has no specific information technology access rights in its text.[134] The Bill of Rights, constitutional amendments ratified by the states between 1789 and 1791, protect a variety of personal liberties.[135] At the time leading statesmen like President Madison drafted the Bill of Rights, several founding fathers fretted that a Bill of Rights would be construed to limit the rights of the people because it would exclude any unenumerated rights. James Wilson of Pennsylvania voiced his concern that rights should not be excluded just because they were not enumerated:

> A bill of rights annexed to a constitution is an enumeration of the powers reserved . . . every thing that is not enumerated is presumed to be given . . . an imperfect enumeration would throw all implied power into the scale of the government, and the rights of the people would be rendered incomplete.[136]

To ensure that the rights enumerated in the other amendments would not be interpreted as an exclusive list of the people's rights, the Bill of Rights drafters included the Ninth Amendment: "[t]he enumeration of rights in the Constitution shall not be construed to deny or disparage others retained by the people."[137]

At the center of the Ninth Amendment is the "great residuum of powers"[138] left in the hands of the people. As scholar Kurt T. Lash has argued, President Madison may have interpreted the Ninth Amendment to serve the dual purpose of safeguarding retained rights and protecting against the encroachment of a large federal government.[139] The Ninth Amendment certainly provides a broad basis for finding certain unspecified but inherently existing rights other than those listed in the

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(FOIA), 5 U.S.C. § 552 (2006 & Supp. V 2011).

[133] U.S. CONST. amend. IX. ("The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people").

[134] *See generally* U.S. CONST. (although the amendments of the Constitution enumerate certain rights which may be inferred to encompass information access rights, no clear language on the matter appears in the text of the Constitution or its amendments).

[135] U.S. CONST. amends. I–X; ERWIN CHEMERINSKY, CONSTITUTIONAL LAW 12 (3d ed. 2006).

[136] James Wilson, Constitutional Convention Delegate, Speech in the Convention of the State of Pennsylvania on the Adoption of the Federal Constitution (Oct. 28, 1787), *available at* http://www.loc.gov/teachers/classroommaterials/presentationsandactivities/presentations/timeline/newnatn/usconst/debpenn.html (last visited Jan. 11, 2013).

[137] U.S. CONST. amend. IX.

[138] James Madison, Speech Introducing Bill of Rights (June 8, 1789), *available at* http://press-pubs.uchicago.edu/founders/documents/bill_of_rightss11.html (responding to the argument that, because the federal government created by the constitution was to be one of limited powers, the residuum of powers—all those not ennumerated—would automatically be retained by the people even without a Bill of Rights).

[139] Kurt T. Lash, *The Inescapable Federalism of the Ninth Amendment*, 93 IOWA L. REV. 801, 816 (2008).

preceding eight amendments.[140] In fact, while there is no such thing as "Ninth Amendment rights," courts look to the Amendment to justify the protection of nontextual rights.[141] Therefore, the Ninth Amendment may provide constitutional justification for the protection of certain fundamental rights, including arguably, information access.[142]

Though an affirmative right to information access does not exist in the Constitution and the Ninth Amendment would protect it only as part of the residuum retained by the people, the founding generation realized that their fallibility would require future generations of American leaders to redefine the constellation of constitutional rights available to the people.[143] Indeed, Americans have arguably demonstrated themselves as a people capable of including ever-increasing numbers of persons into the socio-economic fabric. The expansion of constitutional liberties[144] and, when that is not possible, the implementation of affirmative laws[145] plays an important role in the development of our republic's inclusiveness.

Furthermore, Justice Kennedy's majority opinion in *Lawrence v. Texas* suggests that the absence of certain affirmative rights in the

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[140] Jeffrey D. Jackson, *The Modalities of the Ninth Amendment: Ways of Thinking About Unenumerated Rights Inspired by Philip Bobbitt's Constitutional Fate*, 75 MISS. L.J. 495, 506 (2006) ("From this history of the passage of the Ninth Amendment, it appears, at the very least, that Madison and the other members of the First Congress had some idea that they possessed some sort of unenumerated rights that could not be infringed upon by the Constitution.").

[141] CHEMERINSKY, *supra* note 135, at 794.

[142] *Contra* Ryan C. Williams, *The Ninth Amendment as a Rule of Construction*, 111 COLUM. L. REV. 498, 572 (2011) ("Contrary to the leading modern accounts of the Amendment's original meaning, the plain language of the Amendment neither compels judicial enforcement of unenumerated rights nor prohibits courts from according such rights a lower level of protection than enumerated rights. All that the express language of the Ninth Amendment commands is that the fact that certain rights have been enumerated in the Constitution not be used as a basis for either denying the existence of other 'retained' rights or according such rights a lower level of protection or respect than they would have received if the Constitution lacked an enumeration of rights.").

[143] Thomas Jefferson expressed his perspective on how the Constitution should be viewed in a letter to Samuel Kercheval on July 12, 1816, a quote which was later inscribed in the wall of the Jefferson Memorial in Washington, D.C. The summary in the memorial reads: "I am not an advocate for frequent changes in laws and constitutions, but laws and institutions must go hand in hand with the progress of the human mind. As that becomes more developed, more enlightened, as new discoveries are made, new truths discovered and manners and opinions change, with the change of circumstances, institutions must advance also to keep pace with the times. We might as well require a man to wear still the coat which fitted him when a boy as civilized society to remain ever under the regimen of their barbarous ancestors." *Quotations on the Jefferson Memorial*, MONTICELLO.ORG, http://www.monticello.org/site/jefferson/quotations-jefferson-memorial#_note-9 (last visited Jan. 8, 2013).

[144] *See, e.g.*, Griswold v. Connecticut, 381 U.S. 479 (1965) (finding a right to privacy in the penumbras of the Bill of Rights); Lawrence v. Texas, 539 U.S. 558 (2003) (finding that a state law against homosexual sodomy violated due process); Duncan v Louisiana, 391 U.S. 145 (1968) (finding that the Sixth Amendment right to a jury trial applies to the states via the Fourteenth Amendment Due Process Clause).

[145] *See, e.g.*, The Civil Rights Act of 1964, Pub. L. No. 88-352, 78 Stat. 241 (codified as amended in scattered sections of 42 U.S.C.); The Voting Rights Act of 1965, Pub. L. No. 89-110, 79 Stat. 445 (codified as amended at 42 U.S.C. §§ 1971, 1973 to 1973bb-1 (2006)). While women, African Americans, the disabled, and others, had to strive mightily to acquire equal recognition under the law, that all of these populations of citizens could create and, then, advance successes through a coordinated set of civil rights movement is arguably indicative of a more, not less, open society.

Constitution's text is not conclusive with respect to the actual reach of the document's protections.[146] In finding a state law against homosexual sodomy to be unconstitutional, Kennedy wrote:

> Had those who drew and ratified the Due Process Clauses of the Fifth Amendment or the Fourteenth Amendment known the components of liberty in its manifold possibilities, they might have been more specific. They did not presume to have this insight. They knew times can blind us to certain truths and later generations can see that laws once thought necessary and proper in fact serve only to oppress. As the Constitution endures, persons in every generation can invoke its principles in their own search for greater freedom.[147]

Similarly, while the founding fathers surely could not have envisioned a world with Kindles or iPhones, one might argue that they would support protection of the liberties they held sacred in the context of technology they could never have conceived.

Indeed, as one looks at whether a right to information access can be supported by constitutional principles, it helps to look first at the founding fathers' reverence for education and technological innovation.[148] Thomas Jefferson, in particular, placed great importance on the role of education in a democratic republic:

> I know no safe depositary of the ultimate powers of the society, but the people themselves; and if we think them not enlightened enough to exercise their controul [sic] with a wholesome discretion, the remedy is, not to take it from them, but to inform their discretion by education. This is the true corrective of abuses of constitutional power.[149]

Jefferson also created and utilized a number of tools at Monticello that made his reading and writing easier.[150] Furthermore, Benjamin Franklin created the first public library in Philadelphia[151] and one of the prestigious universities still in existence today, the University of Pennsylvania.[152] In describing the effect of the founders' views of

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[146] *See* 539 U.S. 558 (2003).

[147] *Id.* at 578–79.

[148] The authors would like to preface the following argument by recognizing that the founding fathers applied much of what they professed to believe about liberty only to a select portion of the population.

[149] Letter from Thomas Jefferson to William C. Jarvis (Sept. 28,1820), *available at* http://www.monticello.org/site/jefferson/quotations-education#footnoteref12_375iz3m.

[150] *See Design and Gadgets: Gadgets in the Office*, THE MONTICELLO CLASSROOM, http://classroom.monticello.org/kids/resources/profile/241/Design-and-Gadgets/ (last visited Jan. 18, 2013) (describing tools such as the swivel chair and polygraph—which allowed for the copying of documents—that Jefferson employed in his office at Monticello).

[151] *The History of The Library Company of Philadelphia*, LIBR. COMPANY OF PHILADELPHIA, http://www.librarycompany.org/about/history.htm (last visited Jan. 18, 2013).

[152] *Pennsylvania's University*, THE FRANKLIN INST., http://sln.fi.edu/franklin/timeline/univpenn.html (last visited Jan. 18, 2013).

intellectual and technological exploration on their world, a scholar wrote "[l]etters, learned societies and the printed word came together in the creation of a Republic of Letters, an egalitarian world of knowledge open [in principle] to everyone."[153]

Given that the founding fathers professed belief in an educated leadership base within our republic, if not educated voters for the election of such leaders, the next question is whether the Constitution or its amendments can be interpreted as supporting the existence of a right to information access. The Constitution acknowledges the importance of scientific and technological innovation. Specifically, Article I grants Congress the power "to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."[154] That power is granted in the context of intellectual property rights rather than in an affirmative right to information or technology access. The founders sought to protect intellectual property rights in part because they perceived that a property right is necessary to incentivize creation and that the proliferation of technology and creative works would benefit society.[155] Arguably, access to information is a necessary predicate to the creation of an educated populace and the sorts of technology that the founders wanted to promote by way of protecting intellectual property rights. Given the necessity of information in the Internet Age, one might argue that the right to access information should be protected as one of the unenumerated rights retained by the people.

Courts are increasingly called on by the challenge of interpreting constitutional and statutory rights in an ever-changing technology landscape. *Authors Guild, Inc., v. HathiTrust is* a recent example of a federal court encountering this conflict and reaching a result that promoted increased information access.[156] On October 10, 2012, U.S. District Court Judge Harold Baer granted summary judgment in favor of the defendants, including the National Federation of the Blind (NFB), in the U.S. District Court for the Southern District of New York.[157] Judge Baer's decision enabled libraries of educational universities to achieve their primary goal to digitize copyrighted print collections by rendering them accessible for the blind and visually impaired. Thus, by granting summary judgment for the NFB, Judge Baer virtually leveled the technological playing field.

The Author's Guild and other plaintiffs sued to preclude digitization of copyrighted text by Google and the HathiTrust

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[153] Robert Darnton, *A Republic of Letters*, N.Y. TIMES, Aug. 22, 2010, at BR15 (reviewing LEWIS HYDE, COMMON AS AIR: REVOLUTION, ART, AND OWNERSHIP (2010)).

[154] U.S. CONST. art. I, § 8, cl. 8.

[155] ROBERT P. MERGES, PETER S. MENELL, & MARK A. LEMLEY, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 11–12 (5th ed. 2010).

[156] Authors Guild, Inc., v. HathiTrust, No. 11 Civ. 6351(HB), 2012 WL 4808939, (S.D.N.Y. Oct 10, 2012).

[157] *Id.* at *1.

partnership, which maintains a digital library of over 10 million books, alleging that digitization would infringe on the rights of the copyright owners and transferees.[158] The NFB intervened to protect the accessibility rights of the blind, alleging that digitization of the copies enabled the blind "to read digital books independently through screen access software that allows text to be conveyed audibly or tactilely to print-disabled readers."[159] In turn, the NFB noted that this permitted blind users "to access text more quickly, reread passages, annotate, and navigate, just as a sighted reader does with text."[160] The pre-digitization process was slow and cumbersome, and digitization speeds up the process dramatically. Prior to the digitization process, blind and visually impaired individuals could access print materials "only if the materials were converted to braille or if they were read by a human reader, either live or recorded."[161]

Focusing on the public benefit created by the use, Judge Baer concluded that copyright law "would be better served by allowing the use than by preventing it."[162] In substantiating his decision, Judge Baer acknowledged that "equal access to copyrighted information for print-disabled individuals is mandated by the ADA and the Rehabilitation Act of 1976."[163] Under the Copyright Act the right to reproduce or distribute copyrighted materials is generally limited to the copyright owner and licensees.[164] There are a number of exceptions, including fair use[165] and the Chafee Amendment, which grants an exception to authorized entities: "to reproduce or distribute copies of a previously published, non-dramatic literary work in specialized formats exclusively for use by the blind or other persons with disabilities."[166] Judge Baer found that both fair use and the Chafee Amendment were available defenses for the Defendants.[167] The court's fair use analysis turns "perhaps most importantly" on the fact that Defendants' intended use of the copyrighted material would result in "the unprecedented ability of print-disabled individuals to have an equal opportunity to compete with their sighted peers in the ways imagined by the ADA."[168]

The preceding discussion illuminates several potential bases for a right to information access. The foregoing historical and constitutional overview may have an effect of supporting the supposition of the authors

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[158] *Id.*

[159] *Id.* at *2.

[160] *Id.*

[161] *Id.*

[162] *Id.* at *14 (citing the standard for the fair use defense to a charge of copyright infringement laid out in Bill Graham Archives v. Dorling Kindersley Ltd., 448 F.3d 605, 608 (2d Cir. 2006))

[163] *Id.* at *15.

[164] 17 U.S.C. § 106 (2006).

[165] 17 U.S.C. § 107 (2006).

[166] *Authors Guild*, 2012 WL 4808939, at *15 (citing 17 U.S.C. § 121 (2006), the Chafee Amendment to the Copyright Act).

[167] *Id.*

[168] *Id.* at *14.

that a generation who voraciously sought information by oil lamp and who wrote by quill might have accepted a fundamental right to access information for the disabled in the context of the Information Age. The Norman/Friedman Principle would support the judiciary and congress acting in ways that, as with accretion of sand on the shore, will expand the reach of the Constitution to include an affirmative right to information access. After all, the ADA, and related protections, embodies a "social model of disability." Consistent with the Norman/Friedman Principle, the social model has the effect of positing that the deficiency in "disability" is not in the individual but, rather, in the application of the law to physical or mental impairments.[169]

The United States, serving as a beacon to the world, must be at the forefront of expanding the inclusion and integration of the disabled. Thus, this Article presents the Norman/Friedman Principle to ensure that both existing and innovative new protections and policy measures foster, fortify, and ensure such inclusion and integration through information access. The robustness of the Constitution should be part of that conversation.[170] The Article will next discuss a set of desirable policy measures, some of which are already being implemented, that may be interpreted as consistent with the Norman/Friedman Principle.

IV. RECOMMENDATIONS ON IMPLEMENTING THE NORMAN/FRIEDMAN PRINCIPLE

"The best way to predict the future is to invent it."

~Alan Kay[171]

A. The Twenty-First Century Communications and Video Accessibility Act of 2010

This portion of the Article will explore the effect of recent federal legislation regarding access of the sensory disabled to television, an important technology often providing both frivolity and life-saving information. Success in the modern economy, in large part, depends on

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[169] *See* Burgdorf, *supra* note 108, at 263.

[170] *See* Gary Thompson & Paul Wilkinson, *Set the Default to Open:* Plessy*'s Meaning in the Twenty-First Century and How Technology Puts the Individual Back at the Center of Life, Liberty, and Government*, 14 TEX. REV. L. & POL. 48, 89 (2009) (concluding that "[r]ather than waiting almost six decades as America did with the error of *Plessy* to be corrected, we can harness the power of individuals to protect our rights and to strengthen the social contract from the inside out[; f]or, in the end, individuals are the state.").

[171] Alan C. Kay, *Predicting the Future*, STAN. ENG'G, 1(1) (1989), *available at* http://www.ecotopia.com/webpress/futures.htm.

types of technologies that have previously not been available to users with disabilities. As the Norman/Friedman Principle dictates, success in this economy requires equal access to technology—from operating menus on televisions, DVRs or DVDs to participating in video chats with clients across the country and overseas.[172] Laws such as the Twenty-First Century Communications and Video Accessibility Act of 2010 (discussed below) may have the effect of ensuring that information will be available not only to the privileged few but to all, regardless of ability or disability.[173]

The Communications Act of 1934 constituted one of the earliest federal statutes to regulate communications technologies.[174] The purpose of this Act was to make a rapid, efficient telecommunication system available to "all of the people of the United States."[175] As laudable as the Act was for society in a broad sense, this promise did not extend to persons with disabilities until the passage of important legislation, such as the Telecommunications Act of 1996, which amended the Communications Act of 1934.[176]

Because the 1934 Act did not contain provisions necessary to ensure access in the Information Age, additional measures were necessary. Such measures include § 255 of the 1996 Act, which requires manufacturers of telecommunications equipment and providers of telecommunications services to ensure that such equipment and services are accessible to and usable by individuals with disabilities, if doing so is readily achievable.[177] To help remedy the remaining gaps in federal law (such as a lack of video description), Congress passed the Twenty-First Century Communications and Video Accessibility Act of 2010 (CCVA),

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[172] President Barack Obama, Remarks by the President at the Signing of the Twenty-First Century Communications and Video Accessibility Act of 2010 (Oct. 8, 2010), *available at* http://www.whitehouse.gov/the-press-office/2010/10/08/remarks-president-signing-21st-century-communications-and-video-accessib.

[173] *Id.*

[174] *See* Christopher H. Sterling, *U.S. Policy: The Communications Act of 1934*, THE MUSEUM OF BROADCAST COMMUNICATIONS, http://www.museum.tv/eotvsection.php?entrycode=uspolicyc (discussing the history of communications regulation).

[175] Act of June 19, 1934, ch. 652, 48 Stat. 1064 (1934) (codified as amended at 47 U.S.C. §§ 151–621 (2006)).

[176] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) (codified as amended in scattered sections of Title 47 of the U.S. Code). Even the blind themselves debated, at least in the first decade of the twenty-first century, what the Telecommunications Act covered—specifically, whether the Federal Communications Commission could promulgate regulations or issue orders requiring video description of television. *See, e.g.*, *Briefly*, 11 No. 12 ADA COMPLIANCE GUIDE NEWSLETTER 12 (Thompson Publishing Group), Dec. 2000 (reporting that a group of broadcasters had challenged the FCC's statutory authority to issue a rule requiring video description of television broadcasts and that the National Federation of the Blind had called for the same rule to be rescinded and redrafted). However, it is clear that provisions of the Telecommunications Act, such as its notable § 255, had a noble and important purpose of equalizing opportunities for the disabled. *See* 47 U.S.C. § 255 (2006) (requiring manufacturers of telecommunications equipment and providers of telecommunications services to ensure that such equipment and services are accessible to and usable by individuals with disabilities, if doing so is readily achievable).

[177] 47 U.S.C. § 255 (2006).

which further amended the Communications Act of 1934.[178]

In a broad sense, the purpose of the CCVA is to seek full equality for persons with disabilities in the Information Age, attempting to ensure that they are "not left behind as technology changes and the United States migrates to the next generation of Internet-based and digital communication technologies."[179] Congress designed this important Act "to ensure that people with disabilities have access to emerging twenty-first century communications and video programming technologies."[180] The Act would appear to be consistent with the Norman/Friedman Principle in that federal protections for the disabled with respect to information technology equipment and services are expanded.

The CCVA requires that manufacturers of internet-based communications technology make their equipment and services accessible to those with disabilities. [181] The Act also expands the range of devices that are required to be compatible with hearing aids,[182] and devices that must contain closed captioning decoders.[183] Video devices that utilize on-screen menus must now include audio output for individuals who are blind or visually impaired.[184]

In addition to expanding accessibility to equipment and devices, the CCVA substantially broadens access to various critical services These include telephone relay service,[185] emergency alerts by text messaging,[186] closed captioning of video descriptions,[187] and television programming

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[178] Pub. L. No. 111-260, 124 Stat. 2751 (codified in scattered sections of 47 U.S.C. (2006 & Supp. V 2011)).

[179] *21st Century Communications and Video Accessibility Act*, NAT'L ASS'N OF THE DEAF, http://www.nad.org/issues/civil-rights/communications-act/21st-century-act [hereinafter *NAD on CCVA*] (discussing the organization's view of the purpose of the 2010 legislation) (last visited Jan. 18, 2013).

[180] Twenty-First Century Communications and Video Programming Accessibility Act; Announcement of Town Hall Meeting, 76 Fed. Reg. 21741, 21742 (April 18, 2011).

[181] If this is an undue burden for manufacturers, they will still have to make their technology compatible with specialized equipment and services used by persons with disabilities. *Id.*

[182] Pub. L. No. 111-260, § 102 (codified at 47 U.S.C. § 610 (2006 & Supp. V 2011)). This provision allows persons with disabilities to use their hearing aids for newer telecommunications tools, including cell phones, Internet voice technology, MP3s and DVDs or Blu-Rays.

[183] Pub. L. No. 111-260, § 203 (codified at 47 U.S.C. § 303 (2006 & Supp. V 2011)). The current closed captioning requirement only applies to video screens over 13 inches. This Act extends the requirement to any device that displays video programming with sound, including Internet-based devices.

[184] Pub. L. No. 111-260, § 204 (codified at 47 U.S.C. § 303 (2006 & Supp. V 2011)). This section mandates that there must be an audio output where on-screen menus are used, and that there must be easily accessible closed captioning and video description buttons. Many cable, satellite, and online sources are only navigable by the use of on-screen menus, which shuts out access to the visually impaired.

[185] Pub. L. No. 111-260, § 103 (codified at 47 U.S.C. § 225 (2006 & Supp. V 2011)).

[186] Pub. L. No. 111-260, § 106 (codified at 47 U.S.C. § 615c (2006 & Supp. V 2011)).

[187] Pub. L. No. 111-260, § 202 (codified at 47 U.S.C. § 613 (2006 & Supp. V 2011)). Video descriptions inform the viewer of on-screen visual elements during pauses in dialogues. As a stylized example, if there was an explosion on-screen, this would not be described in traditional closed captioning because it would not be dialogue. An explosion would, however, be included in video descriptions. This section also expands coverage of programs covered under closed captioning laws to include television broadcasts that are screened over the Internet. For example, a television show that previously aired on network TV, and subsequently uploaded to Hulu, will now also be required

guides.[188] The right of persons with disabilities to obtain universal services will also expand to newer forms of communications technology, such as Internet-based telephone services.[189]

In short, this Act has helped ensure, in the words of its sponsor, that individuals who are blind and deaf can "fully participate in twenty-first century society."[190] The Act focuses on ensuring that content available in the digital world is accessible to disabled users. The CVAA has the effect of building positively on the Telecommunications Act of 1996's requirements to technology essential in a twenty-first century economy, like Voice over Internet Protocol (VoIP) and streaming video.[191] The CCVA is also likely to nudge manufacturers of telecommunications equipment to provide support and access to those with disabilities.[192]

The CCVA does not represent an end-point in ensuring equal access to technology. As demonstrated in the next section, states have taken up the call for equal access for the disabled. While federal efforts have been encouraging, there is still not an affirmative requirement in the ADA for places of public accommodation to provide multimedia and information technology access to the disabled community, including with regard to emergency alert warnings.[193] Thus, it is arguably the obligation

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to comply with these video descriptions and closed captioning requirements.

[188] Pub. L. No. 111-260, § 205 (codified at 47 U.S.C. § 303 (2006 & Supp. V 2011)). Cable and satellite providers must make guides and menus usable for people who cannot read the visual displays. This provision is particularly crucial, because many video programs are not accessible unless the user can read and operate complex menus or guides.

[189] *See NAD on CCVA*, *supra* note 179 ("[C]onsumers with disabilities – as a distinct group – [will be] eligible to receive universal service support through two specific measures. First, it grants the FCC authority to designate broadband services needed for "phone communication" by people with disabilities as services eligible to receive support under the existing Lifeline and Linkup universal service programs. For example, this would include deaf individuals who are otherwise eligible for Lifeline and Linkup support, but who rely on Internet-based video relay service or point-to-point video for their telephone communications. Second, it grants authority to the FCC to designate programs that distribute specialized equipment used to make telecommunications and Internet-enabled communication services accessible to individuals who are deaf-blind, as eligible for universal service support. Such support, however, is capped at $10 million per year.").

[190] Press Release of Rep. Edward Markey, *Markey Celebrates First-Year Milestone for Making 21st Century Tech Accessible to All* (Oct. 7, 2011), *available at* http://markey.house.gov/press-release/oct-7-2011-markey-celebrates-first-year-milestone-making-21st-century-tech-accessible. As a leader on pro-disability legislation, Rep. Markey is to be applauded for working with the disability rights community to enact important pieces of legislation. Because this Act has many provisions concerning the expansion of access to the Digital Age, such as emergency notifications, it will be an important tool in equalizing the opportunities of the disabled for living, learning, and earning. *See, e.g.*, President Obama, Blind Americans Equality Day 2011, Proclamation No. 8739, 76 Fed. Reg. 65,099 (Oct. 20, 2011), *available at* http://www.whitehouse.gov/the-press-office/2011/10/14/presidential-proclamation-blind-americans-equality-day-2011 (touting the Act as evidence of the Administration's "dedicat[ion] to ensuring Americans with disabilities have every opportunity to reach their full potential."). Of course, what will be needed moving forward is ensuring that the broad legislation is translated into day-to-day action

[191] Timothy Stephen Springer, *An Overview of the 21st Century Communications and Video Accessibility Act of 2010*, SSB BART GROUP (Mar. 15, 2011), https://www.ssbbartgroup.com/blog/2011/03/15/an-overview-of-the-21st-century-communications-and-video-accessibility-act-of-2010/.

[192] *Id.*

[193] As in other areas, Maryland has often been at the forefront on disability issues. For many years, the Maryland Department of Disabilities had an innovative, highly regarded and influential Emergency Preparedness Program, directed by a leader with a mobility impairment, Joanne Knapp. *See* Ctr. on Health and Homeland Security, Univ. of Md., *Joanne E. Knapp*,

of the several states of the union, the experimental laboratories of democracy, to advance the Norman/Friedman Principle.

B. Maryland Bills Providing for Certain Protections Regarding Information and Technology

Maryland has historically been at the forefront of efforts to improve the quality of life and equal opportunities for persons with disabilities.[194] For instance, the Maryland General Assembly empanelled a quiet vehicle safety taskforce.[195] The State has also established, under the auspices of the Maryland State Library for the Blind and Physically Handicapped, a repository program to provide greater access to electronic textbooks for students with visual disabilities.[196] After discussing some legislative developments, the Article will provide a proposed resolution that the Maryland General Assembly should pass, advancing the call for a renewed commitment to the inclusion and the integration of the disabled, as well as the passage of legal obligations to further these ends.

The authors will now explore proposed technology-friendly legislation for people with disabilities regarding web accessibility. Generally, this legislation (a set of bills introduced in the 2011 session and again in the 2012 session), if passed, would require websites to be accessible to the blind, and by extension, individuals with other sensory disabilities.[197] Accessibility of the Internet, as a place of public accommodation, is required by this legislation.[198] With the support of civic leaders, such as the Maryland Department of Disabilities and the Maryland Commission on Civil Rights, enhanced web accessibility, and in turn expanded rights for the disabled, can be achieved through the

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http://www.mdchhs.com/our-team/joanne-knapp (last visited Jan. 21, 2013).

[194] This is more of an anecdotal observation than a documentable state of affairs. Certainly, the creation of a cabinet level Department of Disabilities in Maryland, one of the first of its kind, is an example in support of this observation.

[195] 2008 Md. Laws ch. 384 (Md. Senate Bill 276; Md. House Bill 1160). The President of the Maryland Senate and the Speaker of the Maryland House of Delegates each chose one member from their respective chambers to serve on this task force. Members of the blind community, representing the Maryland chapter of the American Council of the Blind and the Maryland chapter of the National Federation of the Blind, also served on the taskforce. The taskforce issued a report to the Maryland General Assembly in December, 2008.

[196] *See, e.g.*, Press Release, Nat'l Fed'n of the Blind, Governor O'Malley Signs Landmark Legislation Providing for Electronic Access (May 8, 2007), https://nfb.org/node/1070.

[197] After failing to gain any traction in 2011, the proposed legislation was reintroduced in 2012 in both chambers of the Maryland General Assembly. H.D. B. 183, 2012 Leg. 429th Sess. (Md. 2012), *available at* http://mgaleg.maryland.gov/2012rs/bills/hb/hb0183f.pdf; S. B. 278, 2012 Leg. 429th Sess. (Md. 2012), *available at* http://mgaleg.maryland.gov/2012rs/bills/sb/sb0278f.pdf.

Unfortunately, committees in both the House and the Senate failed to pass the bills and they never reached the floor in either chamber. In the experience of the two authors, who have advocated the passage of affirmative legislation for many years in Maryland, it will require a multi-year effort to secure such reforms and it does not appear to be atypical that the bills have not passed yet.

[198] *Id.*

passage of these bills.[199]

If passed, the bills would require that places of public accommodation with gross revenues of at least $1 million have accessible websites for the blind or the visually impaired.[200] The bills provide for aggrieved individuals to file a complaint before the Maryland Commission on Civil Rights.[201] The bills also provide definitional language, requiring that the term "disability" should be defined consistent with the ADA. A myriad of places of public accommodation are included in the statutory definition, including the Internet.[202] The bills should not be unduly burdensome to small businesses because they provide for delayed implementation and have the aforementioned minimum $1 million revenue requirement.[203] Though the bills would increase the scope of state civil rights, they have not yet passed in the Maryland General Assembly.[204]

If the bills are enacted, persons with disabilities who encounter inaccessible websites will be able to file complaints with the State Civil Rights Commission.[205] Whether realistic or not, one concern is that the Commission on Civil Rights will be inundated with cases. The authors believe this concern may be easily remedied: complainants should only be able to file one complaint per inaccessible website, and companies may merge similar cases against them into one action. Moreover, the authors believe that any such legislation that passes should urge mediation.

Furthermore, the authors recommend that the proposed legislative measures be amended to add an expanded implementation period. Notably, requirements set forth in the bills should not be effective until two years after passage, allowing businesses a reasonable length of time to become compliant with the law and requiring that all new websites formed after this "grace period" be fully accessible. In the interim, a taskforce should be empanelled, facilitating a conference with multi-party stakeholders (such as businesses, the non-profit sector, and the

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[199] The Maryland Department of Disabilities supports classifying the Internet as a place of public accommodation. *See* Levy, *supra* note 53, at 3 ("Another thing that requires our attention is amending Maryland's public accommodations law to . . . make clear that web sites are public accommodations . . . .") To date, the Maryland Commission on Civil Rights has undertaken no position—this being, in no small part to the advocacy of one of the two authors. Otherwise, the state of support for the bills would have likely been worse—a negative vote for opposing the bills. Eager readers may seek to review, perhaps through a request, the recorded meetings of the Commission as verification.

[200] H.D. B. 183 and S. B. 287.

[201] *Id.*

[202] *Id.*

[203] *Id.*

[204] For example, the Attorney General of Maryland, Douglas F. Gansler, initially opined that the bills violated the state constitution but later withdrew that opinion. *Douglas F. Gansler, Attorney General*, Maryland Manual On-line, *available at:* http://www.msa.md.gov/msa/mdmanual/08conoff/attorney/html/msa14107.html (Last visited Nov. 6, 2012). *See also* Memorandum From National Federation of the Blind to Maryland General Assembly (Jan. 19, 2012) (on file with the authors).

[205] H.D. B. 183 and S. B. 287. When an inaccessible website is encountered, then the bill allows individuals to file a complaint with the Maryland Commission on Civil Rights.

disability advocacy community) to study and make general recommendations on web accessibility and compliance with such accessibility.[206] Regardless of whether these bills pass, Maryland should be encouraged to follow the lead of other states in enforcing the accessibility of websites.

In the Mid-Atlantic region, New York State has acted on its own initiative to rectify accessibility issues among private websites.[207] In 2003, the Attorney General of New York achieved settlements with two major websites (Ramada.com and Priceline.com) that expanded accessibility for people with sensory disabilities on the Internet.[208]

Disabled individuals are increasingly visible as civic leaders, hopefully reminding their able-bodied peers about the full scope of disability rights and maintaining a commitment to creating additional affirmative civil rights. Today, the need to provide reasonable accommodations has expanded beyond the physical realm.[209] People with sensory disabilities now reasonably demand equal access to the same online information as their peers. Affirmative protections have not sufficiently embraced the concept that the Internet is now considered a place of public accommodation. The failure to support affirmative obligations for Internet accessibility will obstruct the far-reaching visions of the ADA's drafters and of Maryland's public accommodations statute—namely, equal access to all. Thus, Maryland should be a leader on this issue by enacting affirmative rights broader than the ADA.

C. Transportation Access Issues

Technology is rapidly changing for most of the goods or services of daily life, nowhere more-so that with regard to transportation. For instance, those "muscle cars" of the 1960s are no longer just vehicles. Their successors are virtual computers—thinking, even talking. The laudable developments in vehicles, which will help ensure greater safety of users, have yet to translate into enhanced liberty for the disabled. However, there is positive progress towards translating technological change, which is often beneficial to the able-bodied, into a form that is inclusive of all. Therefore, this Article will now discuss several noteworthy developments and encourage the enactment of affirmative legislative measures to promote their incorporation in Maryland.

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[206] *Id.*

[207] *See* Press Release, Office of New York Attorney General, Spitzer Agreement to Make Web Sites Accessible to the Blind and Visually Impaired (Aug. 19, 2004), *available at* http://www.ag.ny.gov/press-release/spitzer-agreement-make-web-sites-accessible-blind-and-visually-impaired (stating that Ramada and Priceline had agreed to implement online visual accessibility standards).

[208] *Id.*

[209] *See, e.g.*, Levy, *supra* note 53.

1. Developing the Self-Driving Automobile

Transportation has long been a frustrating issue for many blind individuals.[210] Technology innovation has not previously allowed a blind individual to take the wheel and easily travel from one place to another.[211] However, if next generation technologies are encouraged consistent with the Norman/Friedman Principle, this may no longer be true. Autonomous driving or non-visual interface technologies may be the remedy.[212] As previously discussed, the legal framework and policies implemented must be congruent with technological innovation.

This Article will first discuss the evolution in the self-driving automobile. Autonomous driving first entered mainstream consciousness during the 1970s and 1980s, when pioneer Ernst Dickmanns built the world's first real robot cars.[213] Since then, the vehicle industry, with some degree of help from the technology world (such as Google), has steadily moved the technology forward.[214] The automobile industry has sought to incorporate an array of sensory and other technologies into new models of automobiles, allowing them to aid in parallel parking, among other things.[215] The blind, and others with or without disabilities who cannot legally operate an automobile,[216] will constitute incidental, but important, beneficiaries of these developments.[217]

The blindness advocacy community has been at the forefront of advancing this technology access for the disabled. The Jernigan Institute of the National Federation of the Blind (NFB), a research center developed and directed by the blind, proposed a Blind Driver Challenge to highlight this technology and its applicability to improving the opportunity of the disabled.[218] In 2009, Virginia Tech accepted this challenge, offering its Robotics and Mechanisms Laboratory to host the competition.[219] The NFB also intended the competition to catalyze the

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[210] Jerry Hirsch, *Too Young for a License: Self-Driving Autos Can't Quite Pass the Road Test Yet*, WINNIPEG FREE PRESS, Nov. 2, 2012, at A1 ("[Google founder Sergey] Brin believes such cars could provide transportation to blind people who can't drive or other individuals who shouldn't drive.").

[211] *Id.*

[212] *Id.*

[213] PROF. SCHMIDHUBER'S HIGHLIGHTS OF ROBOT CAR HISTORY, http://www.idsia.ch/~juergen/robotcars.html (last visited June 14, 2012).

[214] Hirsch, *supra* note 210.

[215] *Id.*

[216] Namely, older adults.

[217] Hirsch, *supra* note 210; *see also* Marc Scribner, *Driverless Cars Are Coming. Here's How Not to Regulate Them.* WASH. POST, Nov. 4, 2012, at C4 ("autonomous vehicle technology[] allow[s] disabled people to enjoy the personal mobility that most people take for granted. Google highlighted this benefit when one of its driverless cars drove a legally blind man to a Taco Bell."), *available at* http://www.washingtonpost.com/opinions/driverless-cars-are-on-the-way-heres-how-not-to-regulate-them/2012/11/02/a5337880-21f1-11e2-ac85-e669876c6a24_story.html.

[218] *History*, BLIND DRIVER CHALLENGE, http://www.blinddriverchallenge.org/about-the-blind-driver-challenge (last visited Oct. 26, 2012).

[219] *Id.*

creation of a non-visual interface for a car that would "convey real-time information about driving conditions to the blind," thereby enabling them to safely drive a motor vehicle.[220] In sum, the NFB hoped the challenge would help to change public misperceptions of blindness and the related limitations (or lack thereof), as much as it would establish a functional interface that would permit the blind individual to drive "with the same degree of safety and reliability as a sighted person."[221]

Since 2010 Google has been at the forefront of blind access with its innovative self-driving car.[222] Several other automotive companies have also begun the slow and laborious drive towards self-driving cars, including Ford,[223] Audi,[224] Mercedez-Benz,[225] Volkswagen,[226] and General Motors,[227] but none have made the commitment or the progress that Google has.[228] In May 2012, after extensive lobbying from Google, the Nevada State Assembly passed widespread and extensive legislation regulating autonomous cars and granting licenses to autonomous cars for testing.[229]

The first license was assigned to Google for its autonomous Toyota

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[220] *Id.* Specifically, the NFB intended and purposed the Blind Driver Challenge to accomplish four goals: 1. To establish a path of technological advancement for non-visual access technology, and close the gap between access technology and general technology. 2. To increase awareness among the university scientific community about the real problems facing the blind by providing expertise from the perspective of the blind within the context of a difficult engineering challenge. 3. To demonstrate that vision is not a requirement for success and that the application of innovative nonvisual solutions to difficult problems can create new opportunities for hundreds of thousands of people—blind and sighted. 4. To change the public perceptions about the blind by creating opportunities for the public to view blind people as individuals with capacity, ambition, and a drive for greater independence. *Id.*

[221] *Frequently Asked Questions*, BLIND DRIVER CHALLENGE, http://www.blinddriverchallenge.org/frequently-asked-questions (last visited Oct. 26, 2012).

[222] Mark Hachman, *Google Developing a Self-Driving Car, And It Works*, PC MAGAZINE (Oct. 9, 2010, 4:25 PM), http://www.pcmag.com/article2/0,2817,2370518,00.asp.

[223] Mark Hachman, *Ford Taking a Slow Road to Self-Driving Cars*, PC MAGAZINE (March 6, 2012, 9:00 AM), http://www.pcmag.com/article2/0,2817,2401168,00.asp.

[224] Mark Hachman, *Audi's Future: Self-Driving Cars, Dual HUDs, LTE*, PC MAGAZINE (Jan. 11, 2012, 6:14 PM), http://www.pcmag.com/article2/0,2817,2398803,00.asp.

[225] Viknesh Vijayenthiran, *2013 Mercedes-Benz S-Class to Debut Autonomous Driving System*, MOTOR AUTHORITY (Nov. 14, 2011), http://www.motorauthority.com/news/1068584_2013-mercedes-benz-s-class-to-debut-autonomous-driving-system.

[226] *Driving Without a Driver - Volkswagen presents the 'Temporary Auto Pilot'*, VOLVO US MEDIA NEWSROOM (June 23, 2011), http://media.vw.com/pressrelease/746//driving-without-driver-volkswagen-presents-temporary-auto-pilot.

[227] Chuck Squatriglia, *GM Says Driverless Cars Could Be on the Road by 2018*, WIRED (Jan. 7, 2008, 1:49 PM), http://www.wired.com/autopia/2008/01/gm-says-driverl/.

[228] *See* Rebecca J. Rosen, *Google's Self-Driving Cars: 300,000 Miles Logged, Not a Single Accident Under Computer Control*, THE ATLANTIC (Aug. 9, 2012, 12:29 PM), http://www.theatlantic.com/technology/archive/2012/08/googles-self-driving-cars-300-000-miles-logged-not-a-single-accident-under-computer-control/260926/ (describing Google's progress in autonomous driving systems).

[229] Assemb. B. 511, 2011 Leg. 76th Sess. (Nev. 2011), *available at* http://www.leg.state.nv.us/Session/76th2011/Bills/AB/AB511_EN.pdf and, as incorporated into the Nevada DMV Regulations, *available at* http://www.leg.state.nv.us/register/2011Register/R084-11A.pdf. *See* John Markoff, *Google Lobbies Nevada to Allow Self-Driving Cars*, N.Y. TIMES, May 10, 2011, at A14, *available at* http://www.nytimes.com/2011/05/11/science/11drive.html.(discussing Google's involvement with the bill).

Prius.[230] Since then, California has also passed an autonomous driving bill, albeit a more limited one.[231]

In advancement of the technology, public officials on a national scale and in several states are working to create an interconnected information network on the streets and from the streets to signalized intersections.[232] Google's progress will hopefully push other vehicle manufacturers to join in realize revitalizing the autonomous driving industry.

While blind individuals are not the specific target market for autonomous driving, they, and other physically disabled individuals, will be ideal beneficiaries should this technology reach the mainstream.[233] Generally speaking, autonomous driving has several beneficial features, including the prevention of traffic congestion and the ability to aid drivers in avoiding accidents.[234] The autonomous system is intended to analyze the driving environment in a quick and accurate manner, thereby allowing for the safe operation of the vehicle.[235] While this technology will allow the able-bodied driver to repose and drink a cup of coffee, the technology will quite literally allow the blind to operate a vehicle, even if an unique manner. Therefore, the authors encourage Maryland to pass a legal or regulatory framework to encourage this technology in the State.

2. Silent Cars and Their Remedy

Hybrid vehicles may be all the rage nowadays, but technological "improvements" occasionally create additional challenges for the blind. When Toyota introduced its Prius, as one of the first hybrid-electric vehicles, it debuted with a unique feature that has plagued the blind since its introduction—namely, hybrid vehicles barely make any noise. To be more precise, when operating on the electric battery, "hybrid cars are generally quieter than a vacuum cleaner,"[236] and blind individuals may be unable to audibly detect the presence of these vehicles.

Blind pedestrians rely on the variable sounds of traffic and other

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[230] Ben Timmins, *Google's Self-Driving Toyota Prius Gets its Nevada Driver's License*, MOTOR TREND (May 8, 2012), http://wot.motortrend.com/googles-self-driving-toyota-prius-gets-its-nevada-drivers-license-202803.html.

[231] 2012 Cal. Legis. Serv. 570 (West) (to be codified at CAL. VEH. CODE § 38750); Scribner, *supra* note 217.

[232] Steve Johnson, *Silicon Valley Technology Could Be Key to Safer Driving*, DESERT SUN (Palm Springs, Cal.) Nov. 6, 2012, at A5.

[233] The hope of the authors is that this technology will be the mainstream in the future. Affordable and accessible transportation is a key barrier for many, even most disabled individuals, inclusive of the blind author of this article.

[234] Hirsch, *supra* note 210.

[235] Tiffany Kaiser, *California Passes Bill for Autonomous Vehicle Standards*, DAILY TECH (May 22, 2012, 12:29 PM), http://www.dailytech.com/article.aspx?newsid=24737.

[236] Raymund Flandez, *Blind Pedestrians Say Quiet Hybrids Pose Safety Threat*, WALL ST. J., Feb. 13, 2007, at B1.

background noises to safely navigate streets and roads when using guide dogs or canes. Specifically, blind individuals obtain auditory and tactile cues from the environment,[237] and they cannot accurately gather these cues when hybrid vehicles are operating nearby. Cues include traffic sounds at an intersection that help a blind person to understand when it is safe to cross the street.[238] When a noisy vehicle is discerned, a blind pedestrian knows there is a high probability of hearing a vehicle pass within a few seconds and can devote full attention to listening for it.[239] These cues are generated by tire noise at higher speeds, and by internal-combustion engines at lower speeds.[240] However, quiet cars reduce these cues. While a guide dog is far better than a white cane in addressing this issue, even these beloved animals have limitations if their handlers cannot determine traffic flow or cannot know when to cross because of the lack of an accessible pedestrian signal.

In 2008, Lawrence Rosenblum, professor of psychology at the University of California-Riverside, conducted a study, funded by the NFB, on the safety of hybrid cars. Dr. Rosenblum determined that these types of cars could create risks for pedestrians who are blind, small children, the elderly, runners, and cyclists, among others.[241] According to the study, hybrid cars, when operating in electric mode or at low speeds, decreased the timeframe for these individuals to "audibly detect the location of approaching hybrid cars when the vehicles operate at very slow speeds."[242] In contrast, when operating at higher speeds (in excess of 20 miles per hour), or when leaving a stoplight, the tire noise emitted from these vehicles generated audible cues to avoid pedestrian risk.[243] The National Highway Traffic Safety Administration commissioned a subsequent study in 2010 that determined that quiet cars such as hybrid-electric vehicles posed a direct safety risk to blind or low-vision pedestrians.[244]

The study documented "the overall sound levels and general spectral content for a selection of hybrid-electric and internal combustion vehicles in different operating conditions," evaluated "vehicle detectability for two ambient sound levels," and considered "countermeasure concepts that are categorized as vehicle-based, infrastructure-based, and systems requiring vehicle-pedestrian communications."[245] The study reviewed the public safety concerns of

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[237] *Id.*

[238] NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., QUIETER CARS AND THE SAFETY OF BLIND PEDESTRIANS: PHASE 1 18 (2010) [hereinafter NHTSA STUDY], *available at* http://www.nhtsa.gov/search?q=quieter+cars&x=0&y=0.

[239] *Id.*

[240] *Id.* at 75.

[241] *Hybrid Cars Are Harder to Hear*, UC RIVERSIDE NEWSROOM (April 28, 2008), http://newsroom.ucr.edu/1803.

[242] NHTSA STUDY, *supra* note 238, at 75.

[243] *Id.*

[244] *Id.*

[245] *Id.* at 3.

quiet cars on the basis of vehicle type, vehicle operation, and ambient sound levels, and proposed potential countermeasures to mitigate the safety risk of these low-volume vehicles.[246] The study generally found that over 20 million Americans have some degree of vision impairment,[247] about 3.3 million Americans aged 40 and older are blind or have low vision (this number was estimated to increase by 70 %, reaching 5.5 million in the year 2020),[248] while about 100,000 are "independent travelers" who use white canes in coordination with their other senses for orientation and mobility.[249] Prior to the study, the number of those individuals affected by quiet vehicles was unknown.[250]

In detailing the hypotheses, the study analyzed whether human response time was different based on electric or internal combustion engines, and evaluated the sound levels at lower speeds for hybrid-electric cars.[251] In addition, this far-reaching study generally assessed and evaluated factors such as speed limit, lighting and weather, vehicle maneuvers, anecdotal reports, blind mobility needs and acoustic cues, types of intersections, traffic sounds, vehicle operation and detectability, low speed factors, driver reactions, and ambient sound levels.[252] The study also evaluated proposed countermeasures.[253] Ultimately, the study determined that crashes involving pedestrians had higher incident rates for hybrid-electric vehicles than internal combustion engines.

The study also showed that blind pedestrians expressed the preference that quiet vehicles be equipped with a sound generator that, when the vehicle operated less than 20 miles per hour, provided sufficient warning noise to blind pedestrians. The noise would mimic the sound of an internal-combustion engine vehicle. Above that speed limit, tire noise emitted the requisite sound for pedestrian alert information and the audible warning system was unnecessary.

Given the safety concerns regarding hybrid-electric vehicles, President Obama signed the Pedestrian Safety Enhancement Act of 2010 (PSEA) into law.[254] The law mandated that the Department of Transportation create a motor vehicle safety standard alert sound, which would allow blind and other pedestrians to reasonably detect the presence of a hybrid-electric vehicle.[255] This would reduce the hazardous

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[246] *Id.*

[247] *Id.* at 75.

[248] *Id.* at 18.

[249] *Id.* at 75.

[250] *Id.*

[251] *Id.*

[252] *Id.* at 3.

[253] These counter-measures included infrastructure-based signals, detection systems and sound strips, education and enforcement for blind pedestrians and guide dogs, vehicle-based artificial engine sounds, vehicle-pedestrian proximity warning systems and pedestrian-based electronic travel aids; the study also determined the advantages and disadvantages, benefits, shortcomings/challenges, and development status of these varied countermeasures. *Id.* at 22.

[254] Pedestrian Safety Enforcement Act, 49 U.S.C. § 30111 (2006 & Supp. V 2011).

[255] *Id.*; U.S. Dep't. of Transp., *NHTSA Already Working to Fulfill New Pedestrian Safety Enhancement Act*, FASTLANE.DOT.GOV (Jan. 6, 2011), http://fastlane.dot.gov/2011/01/nhtsa-

situation for pedestrians with little or no vision created by silent vehicles.[256] This system has been implemented in the 2012 Toyota Prius V, generating a proximity notification system, which activates at speeds below 15 miles per hour, and is generated by externally mounted speakers on the Prius.[257] In short, the PSEA may be interpreted as another example of how society may positively adopt legislation that conforms to the Norman/Friedman Principle in order to expand upon the inclusion and integration of the disabled into society.

D. Technology Access Cases

The issue of equal access to information content in the entertainment industry poses one of the most contentious issues faced by the disabled. For example, in the last decade, there has been litigation in several different entertainment contexts regarding whether captioning technology must be provided for disabled patrons. This Article will now discuss three examples of captioning litigation, showing, in an illustrative way, how courts are handling equal access to public accommodations in an evolving technological environment. The authors are promoters of dispute resolution, but there are times when litigation may be necessary to promote the broader issues of information access discussed above.

1. Arizona v. Harkins

For a moment, imagine, as a deaf individual, missing key sayings such as the immortal 1939 catchphrase uttered by Clark Gable to Scarlett O'Hara, "Frankly, my dear, I don't give a damn," in *Gone With The Wind*, "I'll be back" in *The Terminator*, James Bond's straight-faced "Bond. James Bond" by Sean Connery, or even "May the Force be with you" by Han Solo to Luke Skywalker as he leaves to destroy the Death Star in *Star Wars*.[258] No matter your favorite genre, these timeless phrases and many others, through the "magic of movies," have made and continue to make an impact on the lives of millions of Americans.

The movie theater industry is a multi-billion dollar business.[259]

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working-to-fulfill-psea-of-2010.html#.UI8R-Gl24ec.

[256] *Id.*

[257] Antuan Goodwin, *Prius' Artificial Engine Noise Demonstrated, Explained*, CNET (Sept. 22, 2011), http://reviews.cnet.com/8301-13746_7-20110209-48/prius-artificial-engine-noise-demonstrated-explained.

[258] American Film Inst., *AFI's 100 Years . . . 100 Movie Quotes*, AFI.COM (June 22, 2005), http://www.afi.com/100years/quotes.aspx.

[259] *Domestic Movie Theatrical Market Summary 1995-2013*, The-NUMBERS.COM, http://www.the-numbers.com/market/ (last visited Jan. 18, 2013) (showing over $10 billion in annual

Movie theaters rake in generous profits from box office revenues, concessions sales, and advertising. In short, movies are good business, and movie theaters do all they can to generate traffic and revenue. One would imagine that movie theater chains would have no problem sharing this "magic" with all patrons. This is not the case. The right to movie theater accommodations has a stormy history[260] and movie theater chains have raised many arguments against providing equal access,[261] some in the context of litigation.[262] More recently, with the groundbreaking settlement in *Ball v. AMC Entertainment Corp.*,[263] some theaters have rushed to caption their showings. As of April 2011, both Regal and Cinemark have committed to full captioning access for the deaf and hard-of-hearing.[264] While some litigation has been necessary to reach this step, the provision of this "full access" is a significant first step for movie theater chains on the rocky path to equal access for all. As demonstrated by ongoing litigation, whether conducted privately, with the DOJ, or through the various state attorney generals, the remainder of the large chains—including AMC/Loews, Carmike, and Cineplex, among others—will be "dragged kicking and screaming"[265] into the limelight when they finally agree to do what Regal and Cinemark have already

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ticket sales alone for the movie industry every year since 2009).

[260] Concerning captioning access *see, e.g., Cornilles v. Regal Cinemas, Inc.*, No. 00–173, 2002 WL 31469787 (D. Or. Jan. 3, 2002) (holding that "defendants need not install Rear Window Captioning Systems in all of their movie theatres to comply with Title III of the ADA. . . . anticipated costs of $6 million to $36 million per defendant is unreasonable as a matter of law."); *Todd v. American Multi-Cinema, Inc.*, No. 02-1944, 2004 WL 1764686 (S.D. Tex. Aug. 5, 2004) (holding that "Equal access does not mean equal enjoyment."). Both *Cornilles and Todd* were dismissed. Concerning physical handicaps *see, e.g.*, Fiedler v. American Multi-Cinema, Inc., 871 F. Supp. 35 (D. D.C. 1994) (finding that "disabled people are to have equal access to the less desirable—and presumably cheaper—seats at theatrical events, as well as the most coveted" and assessing whether to provide an accommodation that may pose a direct threat to the health and safety of others).

[261] *See* John F. Stanton, *Comments of the Alexander Graham Bell Association for the Deaf and Hard of Hearing in Support of House Bill 1463 ("Rachel's Law – Closed Captioning in Movie Theatres")*, ALEXANDER GRAHAM BELL ASSOCIATION FOR THE DEAF AND HARD OF HEARING (Mar. 23, 2010), http://nc.agbell.org/document.doc?id=422. There have been several arguments against mandatory captioning including, but not limited to: "we don't discriminate" against the disabled, other patrons do not like the services provided to the disabled, future technologies will provide more alternatives; the equipment is too expensive, captioning alters the content or is a different service, and there are not enough manufacturers for captioning equipment.

[262] *See id.* Stanton's detailed brief as Counsel for the Alexander Graham Bell Association in support of Rachel's Law does an excellent job in analyzing the history of movie theater captioning access, addressing the legislative history to the variety of case law struggling to garner equal access accommodations for the disabled. As such, the authors will not discuss the history of captioning access here; readers are encouraged to study this brief for further details.

[263] 315 F. Supp. 2d 120 (D.D.C. 2004).

[264] John Waldo, *Movie Captioning: Now the Rule Rather than the Exception*, HEARING LOSS ASS'N OF CAL. (May 17, 2011), http://hearinglossca.org/movie-captioning-now-the-rule-rather-than-the-exception.

[265] Alex Kozinski, Chief Judge, U.S. Court of Appeals for the Ninth Circuit, noted to counsel for the movie theaters during oral arguments in *Arizona v. Harkins* that "You are going to lose eventually . . . you are going to lose this battle in the end. You can get out in front of it and be the good guys, or you can be dragged kicking and screaming and look like jerks. I don't understand why you are choosing to fight this battle." Oral Argument at 48:35, Arizona v. Harkins, 603 F.3d 666 (9th Cir. 2010) (No. 08-16075), *available at* http://www.ca9.uscourts.gov/media/view.php?pk_id=0000004752.

done.

The U.S. Court of Appeals for the Ninth Circuit considered the issue of equal access to movie theater accommodations in *Arizona v. Harkins Amusement Enterprises, Inc.*[266] The State of Arizona initially filed suit against Harkins Amusement Enterprises (Harkins), a large and well-known movie theater company in Arizona, on behalf of similarly situated blind and hearing impaired individuals. The State of Arizona alleged that Harkins had violated the ADA[267] and the Arizonans with Disabilities Act[268] when it failed to provide equal access to the blind and deaf populace who sought captioning or descriptive audio access at Harkins' movie theaters.

On appeal, the Ninth Circuit found that claimants did establish a prima facie case of discrimination.[269] The claimants showed that they were disabled under the ADA; that Harkins was a private entity that owned, leased, or operated a place of public accommodation; and that the claimants were denied public accommodations by Harkins due to their disability.[270] More specifically, in order to prevail, the claimants had to demonstrate that Harkins' invidious discrimination included:

> [the] failure to take such steps as may be necessary to ensure that no individual with a disability is excluded, denied services, segregated or otherwise treated differently than other individuals because of the absence of auxiliary aids and services, unless the entity can demonstrate that taking such steps would fundamentally alter the nature of the good, service, facility, privilege, advantage, or accommodation being offered or would result in an undue burden.[271]

The court reasoned that movie theater captioning and descriptive narration technology fell under the category of "auxiliary aids and services."[272] The sundry provision of these supplementary accommodations allowed for the nondiscriminatory enjoyment of movies at Harkins' movie theaters.[273]

The Ninth Circuit disagreed with the district court's finding that such accommodations were outside the breadth of the ADA;[274] namely, the district court assumed that discrimination was based on equal access to the goods and services actually provided, rather than the provision of

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[266] *Harkins*, 603 F.3d 666.

[267] 42 U.S.C. §§ 12101–12213 (2006 & Supp. III 2009).

[268] ARIZ. REV. STAT. ANN. § 41-1492 (2012).

[269] *Harkins*, 603 F.3d at 671, 675.

[270] *Id.* at 670.

[271] *Id.* (citing 42 U.S.C. § 12182(b)(2)(A)(iii) (2006 & Supp. III 2009)).

[272] *Id.*

[273] *Id.* at 670–72.

[274] *See id.* at 675 ("the district court erred in holding that closed captioning and descriptive narration are not required by the ADA.").

alternative goods and services as defined in 42 U.S.C. § 12103(1).[275] The district court's interpretation would effectively eliminate the ADA's affirmative requirement for a place of public accommodation to provide auxiliary aids and services.[276]

The Ninth Circuit reviewed the various accommodations requested to determine which ones might constitute a necessary but equal accommodation for the disabled.[277] The court noted that descriptive narration technology allows individuals with visual impairments to hear information about key visual aspects of movies.[278] The court also reviewed three commonly used captioning access technologies.[279] The first two were less prevalent forms of "open captioning," which displays captions on the screen for the entire audience to view.[280] One type of open captioning engraves text onto each individual frame of the film, while the other type projects captioning through a projector onto the screen, thereby enabling the theater to turn on or off the captioning based on demand.[281] The third and most popular option captioning access technology option allows for closed captioning to be displayed on portable reflector panels located at the individual's seat.[282] The court determined that captioning access was generally limited to theaters that had the requisite equipment for these advanced technologies.[283] Harkins provided only limited captioning runs at two theaters—out of 21 theaters and 262 auditoriums owned and operated by Harkins throughout Arizona—and did not have descriptive audio at any theater.[284]

The Ninth Circuit did not determine whether particular types of captioning access would be required by movie theaters; indeed, it concurred with the district court's holding that "the ADA does not require Harkins to utilize open captioning as a matter of law."[285] However, it clearly noted that the district court erred in finding that captioning access and descriptive narration were not outright required outright by the ADA.[286] The Ninth Circuit left open the determination as to whether these services or aids would fundamentally alter the nature of Harkins' services or constitute an undue burden.[287]

The Ninth Circuit's affirmation that movie theater

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[275] *Id.* (rejecting the district court's reliance on *Weyer v. Twentieth Century Fox Film Corp.*, 198 F.3d 1104, 1115 (9th Cir. 2000) and *McNeil v. Time Ins. Co.*, 205 F.3d 179 (5th Cir. 2000)).

[276] *Id.* at 672.

[277] *Id.* at 668–69.

[278] *Id.* at 669.

[279] *Id.* at 668.

[280] *Id.*

[281] *Id.*

[282] Otherwise known as "seat-based captioning." *Id.*

[283] *Id.*

[284] *Id.* at 669.

[285] *Id.* at 675.

[286] *Id.*

[287] *Id.* (citing 42 U.S.C. § 12182(b)(2)(A)(iii) (2006 & Supp. III 2009) and 28 C.F.R. § 36.303(a) (2012)).

accommodations[288] are included within the ambit of the ADA has far-reaching potential. While a number of affirmative defenses remain available to theaters with respect to the provision of these accommodations,[289] time itself poses a hazard to these arguments. As technology continues to develop and adapt to changing trends, the costs for providing widespread movie theater accommodations will likely decrease. This will ultimately reduce the probability of a successful "undue burden" argument. Likewise, as public opinion continues to sway in favor of expanding civil rights protections,[290] movie theaters will likely find the "fundamental alteration" argument to be limited as a matter of law. This reflects the changing nature of our times and the increasing openness of society towards equal access for all.

2. NAD v. Netflix

As highlighted by the CCVA, the difficult issue of ensuring equal access to all is not limited to the movie theaters, but also extends to online captioning of content. On June 16, 2011, the National Association of the Deaf (NAD) filed a civil suit against Netflix in the U.S. District Court for Massachusetts.[291] NAD alleged that Netflix violated the ADA by failing to provide equal access to its "Watch Instantly" streaming content. Specifically, NAD alleged that Netflix violated a regulation promulgated pursuant to 42 U.S.C. § 12181(7),[292] when it failed to provide equal access to millions of deaf and hard-of-hearing individuals who desired nothing more than the "full and equal enjoyment" of the "public accommodation's goods, services, facilities, and privileges, including 'place[s] of exhibition and entertainment,' 'place[s] of recreation,' 'sales or rental establishment[s],' and 'service establishments.'"[293] NAD argued that the ADA was intended to "remove barriers and bring people with disabilities into the mainstream."[294] Netflix, by failing to caption its "Watch Instantly" content, limited access to entertainment for the deaf and hard-of-hearing,[295] which NAD alleged was an "ongoing and continuous violation of the law."[296]

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[288] These include, but are not limited to, captioning access for the deaf and descriptive narration for the blind.

[289] Foremost being the exceptions for "undue burden" and the "fundamental alteration" contained in 28 C.F.R. §§ 36.302(a), 36.303(a).

[290] *Cf.* ADA Amendments Act of 2008, Pub. L. No. 110–325, 122 Stat. 3553 (criticizing the Supreme Court's limitation of the ADA's scope and amending the ADA to rectify those limitations).

[291] Complaint, Nat'l Ass'n of the Deaf v. Netflix, Inc., No. 3:11-cv-30168 (D. Mass. June 6, 2011), *available at* http://www.nad.org/sites/default/files/2011/June/NAD,%20et%20al.%20v.%20Netflix%20Complaint.pdf.

[292] 28 C.F.R. § 36.201(a) (2013).

[293] Complaint, *supra* note 291, at 3.

[294] *Id.* at 15.

[295] *Id.* at 1.

[296] *Id.* at 17.

Netflix has over 20 million subscribers and was the "only major player in the online-only video subscription business."[297] This particular "Watch Instantly" streaming content is the "biggest source of Internet traffic in the U.S.," accounting for nearly 30% of peak time traffic out of the 50% total that was comprised of streaming of video and audio.[298] As of June 14, 2011, Netflix had only captioned approximately 5% to 30% of its content.[299] NAD indicated that it, and other members of the deaf and hard-of-hearing community, had made numerous requests to Netflix to provide captioning access on this content.[300]

NAD substantiated its complaint with a number of customer complaints from deaf and hard-of-hearing individuals from all over the country.[301] While hearing subscribers were able to access the full content of the "Watch Instantly" library, deaf and hard-of-hearing members were unable to do so.[302] This prevented deaf and hard-of-hearing individuals from paying for the least expensive feature offered by Netflix, and instead required them to obtain the more expensive plans that included DVD rentals, in order to obtain accessible content.[303] This, according to NAD, resulted in a "deaf tax" being charged against the deaf and hard-of-hearing populace.[304] This would also unduly limit deaf individuals to a delay in watching the content and would unreasonably tether them to watching content on a physical DVD player rather than "on the go" as the "Watch Instantly" content permitted.[305]

The DOJ submitted a particularly enlightening Statement of Interest.[306] Most important, the DOJ emphasized that the ADA is not limited just to physical structures,[307] and can be applied via physical or electronic spaces—for example, the telephone or Internet.[308] This DOJ proclamation has relevance to other issues discussed in this Article. The DOJ noted that it has historically interpreted Title III of the ADA to apply to web services, thereby supporting NAD's contention that Netflix is a public accommodation subject to Title III.[309] The DOJ indicated that it viewed Netflix under Title III in a variety of ways: 1) as a "service establishment" which allows for "customers to instantly stream a wide variety of programming via its website wherever they have an Internet

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[297] *Id.* at 5.

[298] *Id.* at 2.

[299] *Id.* at 6–7. The NAD based this number on the varied definition of content. *Id.*

[300] *Id.* at 7–8.

[301] *Id.* at 12.

[302] *Id.*

[303] *Id.*

[304] *Id.* at 15.

[305] *Id.*

[306] Statement of Interest of the United States at 1, Nat'l Ass'n of the Deaf v. Netflix, Inc., No. 3:11-cv-30168 (D. Mass. May 15, 2012), 2012 WL 1834803. *The DOJ noted that it filed the motion* because this matter governed the interpretation and application of Title III of the Americans with Disabilities Act, and is the primary agency responsible for enforcing Title III of the Act. *Id.* at 1.

[307] *Id.* at 5.

[308] *Id.* at 7.

[309] *Id.* at 4, 9,10.

connection;"[310] 2) Netflix's content is included within the "exhibition or entertainment" category as its website provides content including movies, television programs, and other related entertainment content; and 3) Netflix constitutes a "rental establishment" because its customers pay for the rental of video programming via its website and receive physical or electronic versions of the rented content.[311] The DOJ also discussed how the CCVA was directly applicable to the case at bar: it requires, among other things, streamed Internet programs already in the video programming distributor's library to be captioned by September 30, 2012, which would require Netflix to caption most, if not all, of its "Watch Instantly" content.

As this article went to press, Netflix entered into a historical settlement with NAD on October 9, 2012.[312] As of the date of settlement, 82% of Netflix's content was captioned, and the company agreed to caption 90% of its content by September 30, 2013. [313] Netflix further agreed to reach 100% captioning of its content by September 30, 2014.[314] Until 100% of the content is captioned, Netflix stated that it will maintain a sortable database on its website listing all captioned or subtitled content.[315] In addition, all newly added content will include captions or subtitles, with a decreasing time-frame for captioning or subtitles to be added to the new content.[316] Netflix also agreed to pay attorney's fees and costs, as well as $40,000 for monitoring the implementation of the consent decree.[317] The parties also settled on a proviso, ensuring for alternative means of accommodating the deaf and hard-of-hearing based on improved technologies.[318]

In short, this is the first and most unique settlement of its kind—a web-based[319] streaming-content provider agreeing to caption all of its content—and may lead to similar widespread implementation by other content providers. As the need for captioning access grows, content providers have begun to take steps to ensure equal access for all, even though these steps may be the results of litigation.

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[310] *Id.* at 7.

[311] *Id.* at 6–7.

[312] Consent Decree, Nat'l Ass'n of the Deaf v. Netflix, Inc., No. 3:11-cv-30168 (D. Mass. Oct. 9, 2012), *available at* http://dredf.org/captioning/netflix-consent-decree-10-10-12.pdf.

[313] *Id.* at 3.

[314] *Id.*

[315] *Id.*

[316] Netflix would have 30 days by 2014 to caption newly launched content, with this number decreasing to 15 days by 2015, and 7 or less days by 2016. *Id.* at 4.

[317] *Id.* at 6.

[318] *Id.* at 7.

[319] Although Netflix provides DVDs as a primary element of its programming, and intends to do so as a long-term business endeavor, streaming media is recognized to be a significant and fast growing aspect of Netflix's repertoire. *See* Jessie Becker, *Netflix Introduces New Plans and Announces Price Changes*, NETFLIX: U.S. & CANADA BLOG (July 12, 2011), http://blog.netflix.com/2011/07/netflix-introduces-new-plans-and.html (describing streaming and DVD-only packages).

3. Feldman v. Pro Football

On March 25, 2011, the U.S. Court of Appeals for the Fourth Circuit issued an unpublished per curiam opinion discussing the issue of captioning access at Redskins Stadium. [320] The case arose from a complaint filed in the U.S. District Court for the District of Maryland Southern Division, wherein the district court granted in part the plaintiffs' motion for summary judgment.[321]

In the underlying case, plaintiffs (deaf and hard-of-hearing fans who attended Washington Redskins football games) alleged that defendants (collectively the owners and operators of FedEx Field, the home of the Redskins) refused to provide auxiliary aids and services—specifically captioning access—to ensure that announcements made over the public address system were effectively communicated to deaf and hard-of-hearing fans.[322] While the Redskins provided assisted listening devices upon request, not all plaintiffs benefitted from the devices.[323] Thus, plaintiffs and NAD requested that captioning be displayed on the JumboTron at FedEx Field.[324] This would enable plaintiffs to "understand referee calls, plays during the game, and emergency announcements."[325] Plaintiffs also requested that certain LED ribbon boards used to caption announcements during the game be relocated to enable a clear "line of sight" for both the JumboTron and the LED ribbon boards.[326] Plaintiffs further alleged that defendants failed to provide equal access to the "aural information broadcast"—music with lyrics.[327]

After suit was filed, defendants began captioning all broadcast content—both on televisions located inside the stadium and on the JumboTron itself—at every Redskins home game and promised to continue doing so indefinitely.[328] Thus, defendants argued that plaintiffs' claim was rendered moot.[329] Plaintiffs argued that defendants could end the feed at any time, a fact with which the district court agreed.[330] The district court also noted that the provision of assistive listening devices was insufficient under the ADA, as this technology was "useless" to plaintiffs and thus, did not provide effective communication.[331]

In sum, the district court concluded that "Title III of the ADA requires Defendants to provide deaf and hard-of-hearing fans equal

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[320] Feldman v. Pro Football, Inc., 419 F. App'x 381 (4th Cir. 2011).
[321] Feldman v. Pro Football, Inc., 579 F. Supp. 2d 697 (D. Md. 2008).
[322] *Id.* at 698–700.
[323] *Id.* at 699.
[324] *Id.* at 699–700.
[325] *Id.* at 699.
[326] *Id.* at 703.
[327] *Id.* at 708.
[328] *Id.* at 700.
[329] *Id.* at 706.
[330] *Id.*
[331] *Id.* at 709.

access to the aural information broadcast over the stadium bowl public address system at FedEx Field, which includes music with lyrics, play information, advertisements, referee calls, safety/emergency information, and other announcements."[332] Defendants appealed to the Fourth Circuit over the mootness issue, and the district court's requirement for defendants to provide auxiliary access to the aural content broadcast over the public access system.[333] The Fourth Circuit affirmed the district court's decision that the defendants had not discharged their burden of showing that they would not repeat their wrongs, finding that defendants could stop providing captioning with "ease."[334] The Fourth Circuit also agreed with the district court that, "music played over the public address system during Redskins home games is part of the football game experience that defendants provide as a good or service, and that the Americans with Disabilities Act requires full and equal access to the music lyrics."[335]

In conclusion, the provision of specific functional auxiliary aids to promote equal access for the disabled does far more than merely enabling the user to understand, follow, or enjoy the content provided; it provides an experience—indeed an essential facet of daily life and a necessary accommodation for the disabled.[336] Cases such as *Netflix* show that while some companies undertake certain affirmative actions to broadcast content with captioning, these actions are often insufficient. The deaf and hard-of-hearing constitute but a small percentage of the overall population, but that does not diminish their need or desire to utilize the universe of media options.

E. Assistive Technology Costs and Repair

As should be readily apparent by this point in the Article, many disabled individuals rely on reasonable accommodations to actively engage in the routines and enjoyment of daily life. As this Article has discussed, there are many forms of assistive technologies—hardware or software—that aid these individuals in communicating, seeing, hearing, or achieving mobility.[337] Because these many technologies may serve as

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[332] *Id.*

[333] Feldman v. Pro Football, Inc., 419 F. App'x 381, 386 (4th Cir. 2011).

[334] *Id.* at 387.

[335] *Id.* at 384.

[336] *Id.*

[337] A screen-reader like JAWS is an example. Moreover, "[a]lthough some [assistive technology devices], such as calculators, wheelchairs, and books on tape, may be familiar to all or most educators, others, such as the reading pen and alternative computer input devices, are more recent advances, and would likely be unfamiliar to many educators.

The range of assistive technology devices that are likely to become widely available in the future will be even more remarkable in their ability to improve the lives of students with disabilities, and even more foreign to educators not trained in their use. One example of such a device, which may become available in the near future, is the Hybrid Assistive Limb or HAL. This Device consists

a way to lessen the physical, mental, or emotional limitations of the disabled, ensuring their inclusion and integration in society, it is critical that such technology be affordable, useable, and in good condition. And if not, disabled users must be able to easily address that state of affairs.

1. Addressing the Price Gap: Ensuring Assistive Technologies are not Lemons

As with all other purchases, assistive technology devices will sometimes fail to operate as designed, and should be covered under expansive warranties intended to suit this purpose. However, as with any other mechanical device, whether a car or a form of assistive technology, warranty coverage may not suffice when a manufacturer is noncompliant with its own warranty, cannot reasonably repair or replace the product, or the customer takes matters into his or her own hands. "Lemon laws" exist to safeguard the rights of both consumers and manufacturers, and to provide a remedy for purchasers of a particular item that repeatedly fails to meet certain performance and quality standards.[338] As such, the authors support a lemon law in Maryland for technology specifically designed for and utilized by the disabled.

Lemon laws were first incorporated into the context of assistive technology when Congress passed the Technology-Related Assistance for Individuals with Disabilities Act in 1988,[339] which was later reauthorized and renamed the Assistive Technology Act in 1998.[340] Some states are attempting, or have attempted to, expand on the federal legislation to ensure that disabled customers do not receive a "lemon" when they make an expensive purchase of assistive technology. Upon review of existing assistive technology lemon laws,[341] the authors have devised a few points that should be addressed within the context of drafting updated model legislation. This list is by no means exhaustive.

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of a backpack, belt, and leg attachments, all of which are worn by the user. The backpack contains a computer that communicates wirelessly with the leg attachments and the belt contains the device's power source. The device assists people with physical disabilities that render them immobile or weak by intercepting the signals from their brains that tell their legs to move prior to them reaching the leg muscles, and then activates motors in the leg attachments that move the user accordingly. The device is, in effect, a powered suit, which is controlled by an individual's own brain signals. The potential applications of this device for special education are many."). Jonathan Stead, Notes and Comments, *Toward True Equality of Educational Opportunity: Unlocking the Potential of Assistive Technology Through Professional Development*, 35 RUTGERS COMPUTER & TECH. L. J. 224, 239–40 (2009).

[338] BLACK'S LAW DICTIONARY 984 (9th ed. 2009) (defining lemon law as "a statute designed to protect a consumer who buys any product of inferior quality").

[339] Technology-Related Assistance for Individuals with Disabilities Act of 1998, Pub. L. No. 100-407, 102 Stat. 1044 (codified in scattered sections of 29 U.S.C.).

[340] Assistive Technology Act of 1998, Pub. L. No. 105-394, 112 Stat. 3627 (codified in scattered sections of 29 U.S.C.).

[341] In the Mid-Atlantic region alone, the authors found statutes in New York, Pennsylvania, and Delaware. *E.g.*, DEL. CODE ANN. tit. 6, §§ 5001b–5007b (2012) (Assistive Technologies Device Warranties and Consumer Protection).

State or federal representatives should certainly not hesitate to seek advice and comments from specialists in the field of assistive technology, to ensure that the proposed legislation truly meets the needs and desires of the disabled populace.

The law should cover any consumer who buys or leases an assistive technology device from the manufacturer or assumes ownership of such device prior to the expiration of the manufacturer warranty. The law should extend to both original and subsequent purchasers and to all means of purchase, such as through an online medium like eBay. The consumer should not be penalized for seeking alternative methods of purchasing the same device for the same purpose.

The law should not require the presence of a disability under the ADA or related state or federal law. Nondisabled consumers should not be penalized if they purchase an assistive technology device, regardless of whether the purpose is to aid an individual with a disability or for personal use. If states choose to narrow coverage to individuals with a disability, any broader protections in that state's civil rights law should apply to purchasers if the protections are broader than the ADA.

The law should not cover devices sold or transferred without a warranty or in "as is" condition. If the consumer purchases a device without a warranty, any protection provided by this law is voided. In other words, the manufacturer is absolved of any fault for problems the assistive technology device may have if there is not a warranty.

The law should allow for a "reconsideration period." States may consider a reconsideration period, which would enable the consumer to return his purchase within a minimal timeframe, such as three days. This coverage should not apply with "as is" assistive technology purchases.

The law should be broadly construed to cover all devices created or utilized for the purpose of assistive technology. This should include, but not be limited to, wheelchairs and lifts, scooters, hearing aids, seating and positional aids, communication devices, and talking or screen-reading software and hardware. The law should also provide for future expansion based on the rapidly developing growth of technology.

Lemon law coverage should extend for a finite period from the longer of the date of purchase or during the warranty period allotted by the manufacturer. If there are any issues with the manufacturer's warranty, the lemon law will apply throughout this period. If the assistive technology is repurchased near the end of the manufacturer's warranty, then the lemon law should extend for the subsequent purchaser beyond this period for a reasonable length of time.

Manufacturers must be required to repair devices within a set time period. Manufacturers should be allowed a reasonable length of time to undertake review and possible repairs of the assistive technology device. Failure to rectify the defect within this time period should result in replacement, or sanctions for a total failure to comply with any requested repairs.

If, on multiple occasions, the repair takes longer than the requisite time period, alternative options should be provided. In the event that multiple repair delays occur, manufacturers must be required to provide similar alternatives to the consumer, such as refunding the cost of the purchase, total replacement, or a reasonable reimbursement of the daily cost of renting an alternative device.

Consumers should be entitled to refund or replacement after a given number of failed attempts at repair or if the needed repair does not occur within a given length of time. If the manufacturer has made a number of failed attempts at repair, and the product continues to operate in a manner inconsistent with its intended operation, the manufacturer must provide refund or replacement to the consumer. Consumers should not be entitled to fees for time or effort expended, although manufacturers should be encouraged to work closely with consumers to satisfy continued consumer needs.

Coverage should not apply to devices that are abused, neglected, or substantially materially altered. Any device that bears signs of post-purchase damage, modification, or harm to the effective operation of the device should not be covered under the lemon law. The law should also limit coverage on this basis regardless of intent on the part of the consumer.

Manufacturer defenses should be limited to those allowed by law. Manufacturers should not be entitled to construct non-statutory defenses. Related complaints should be submitted to the appropriate state agency for review. Complaints should be viewed in the light most favorable to the consumer.

Enforcement and potential sanctions for failure to comply with the law should be included, but failure to exhaust administrative remedies should not be a bar to private suit. The law should dictate which agency is responsible for the enforcement of the lemon law and provide sanctions for a manufacturer's deliberate failure to comply with the law. However, consumers should not be required to file complaints with the appropriate agencies in the event that they desire to proceed privately against a manufacturer.

Finally, *consumers should not engage in self-help*. The law should require consumers to continue making payments towards a purchase or lease of the device, even if the device fails to operate as expected.

The recommendations made in this section should guide drafters of a model lemon law act for assistive technology. States, including Maryland, should undertake efforts to review, draft, and propose updated legislation. Any such outdated laws related to assistive technology or those that are unduly limiting—such as those which omit mention of or limit coverage for wheelchairs or hearing aids—should be updated with newer, more relevant legislation that adequately addresses both current and future needs.

2. Maryland's Need for Affirmative Action

As this Article has described throughout, more often than not, the states must be catalysts for change. As such, this issue constitutes a prime subject for legislative action in the Maryland General Assembly.[342] As residents of the great State of Maryland, the authors encourage the enactment of a lemon law in Maryland. The Motorized Wheelchair Warranty Enforcement Act of 1994 (Wheelchair Act)[343] is the closest the state has to a lemon law for assistive technologies. This Act pertains exclusively to motorized wheelchairs and does not address coverage for assistive technology as a whole.

While Maryland should be commended for enacting legislation that protects the rights of those with motorized wheelchairs, one must wonder why Maryland stopped there—why not go all the way and finish the job that was started in 1994? Historically, Maryland has been at the forefront of disability protection and advocacy.[344] Despite this positive achievement, Maryland lags behind the numerous other states that have enacted broad assistive technology protections for the disabled. Thus, there is a dire need, nearly 20 years after the Assistive Technology Act[345] was first implemented, for Maryland to step up to the plate and swing this one out of the ballpark. The points the authors have provided in this Article will guide policymakers in Maryland to critically review and analyze the Wheelchair Act. Expansion of the existing assistive technology law should be recommended and ultimately implemented. But the buck should not stop there.

Furthermore, Maryland legislators should consider even broader expansion of the rights of the disabled. A comprehensive resolution should be passed in the Maryland General Assembly to further this aim. Having equal opportunities to utilize technology like any other person should be explicitly or implicitly at the core of the joint resolution. The joint resolution should hold that assistive technology guidelines, as well as overall requirements for full accessibility of all technologies, should be established in all domains—whether through housing accommodations, captioning access, or physical accessibility—anywhere that commerce flows through Maryland.[346] The authors hope that such a

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[342] Once again, any such action might be more informed and also more subject to quick passage if a stakeholder engagement process is applied, such as that suggested in the article by Ms. Berube and Mr. Norman above. Berube & Norman, *supra* note 83, at 15–16.

[343] MD. CODE ANN., COM. LAW §§ 14-2701–14-2706 (West 2012).

[344] Among other aspects, Maryland has various civil rights protections which have been enacted to further the quality of life for the disabled, including a Disability Law Center, a Civil Rights of Persons with Disabilities Clinic at the University of Maryland Francis King Carey School of Law, a cabinet-level Secretary of Disabilities who oversees the Maryland Department of Disabilities, and a Maryland Commission on Civil Rights that enforces Maryland's anti-discrimination law. *See* Title 20, MD. CODE ANN., STATE GOV'T (West 2009) (outlining the role of the Commission on Civil Rights and the laws it enforces).

[345] *See supra* Part IV.E.I.

[346] These are the range of efforts that the authors are consistently and regularly advocating

joint resolution would continue the dialogue about technology access, particularly with respect to the media.

V. CONCLUSION

It is not enough to pin the blame on others, to say this is a problem of one section of the country or another, or to deplore the facts that we face. A great change is at hand, and our task—indeed, our obligation—is to make that change peaceful and constructive for all. Those who act boldly are recognizing right as well as reality.[347]

The goal of this Article is to contribute to the growing dialogue about how to advance affirmative civil and constitutional rights, if not in the existing federal legal framework, then at least in individual states such as Maryland. While most of the websites, movie theater accommodations, and various technological devices and programs mentioned in this Article provide a significant degree of accessibility, they still pose some limitations, especially insofar as the Internet and the Information Age are concerned. There are ongoing challenges in safeguarding the civil rights of the disabled. For instance, if an Internet site is not properly coded or tagged for accessibility from the start, then access to the website may be futile for a blind person even with a screen-reader; if captioning content is not properly entered by a stenographer or is not entered at all, a deaf person may misinterpret or be unable to follow the content provided; if an indigent, physically handicapped individual's electric wheelchair fails to operate properly and the manufacturer refuses to repair the product under the warranty, the individual will be unable to ambulate or perform his activities of daily living. A society which does not commit itself to ensuring that information is accessible, in light of technological advances in the Information Age, propagates injustice and denigrates affirmative legislative protections that may be well-crafted and on the books.

In short, no matter what the content, the disabled have a civil, and arguably a constitutional, right to equal access to information available to able-bodied Americans through technology. If the rights of one person are denigrated, then by extension, the rights of all are lessened.[348] Any failure to provide this access, unless such an accommodation is legitimately demonstrated to be "unduly burdensome" or it

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within their membership on the Maryland Commission on Civil Rights and the Technology Loan Assistance Program Board, and also in their personal capacities as leaders with disabilities. To further advance the cause, the authors are attempting to create a new Disability and Human Rights Section within the Maryland State Bar Association.

[347] President John F. Kennedy, Radio and Television Report to the American People on Civil Rights (June 11, 1963), *available at* http://www.jfklibrary.org/Asset-Viewer/Archives/JFKWHA-194-001.aspx.

[348] *Id.* ("It was founded on the principle that all men are created equal, and that the rights of every man are diminished when the rights of one man are threatened.").

"fundamentally alters" the nature of the content provided, is egregious and a detriment to disability rights. In addition, not only are the disabled irreparably harmed by a lack of accessibility—society as a whole suffers from the harm resulting from such injustice. Thus, the law must, in accordance with the Norman/Friedman Principle set forth in this Article, be interpreted holistically, compassionately, and broadly to equalize the opportunity, although not necessarily *per se* the outcome, for the disabled.[349]

[349] *Id.* ("As I have said before, not every child has an equal talent or an equal ability or an equal motivation, but they should have an equal right to develop their talent and their ability and their motivation, to make something of themselves.").