

JOURNAL ON TELECOMMUNICATIONS & HIGH TECHNOLOGY LAW

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FROM THE EDITOR

With this issue, we celebrate ten years of publishing some of the most cutting-edge and thought-provoking work in technology law and policy. Over the years, JTHTL has made important contributions to the dialogue on telecommunications and technology policy with seminal articles such as Tim Wu's *Network Neutrality, Broadband Discrimination*;¹ Michael K. Powell's *Preserving Internet Freedom: Guiding Principles for the Industry*;² Douglas C. Sicker & Joshua L. Mindel's *Refinements of a Layered Model for Telecommunications Policy*;³ and Jonathan Neuchterlein's *Antitrust Oversight of An Antitrust Dispute: An Institutional Perspective on Net Neutrality Debate*.⁴ These pieces, among others, have been widely cited and have helped to build a foundation for the development of telecommunications and technology policy.

The current issue continues the tradition of outstanding technology policy scholarship with several papers from the Digital Broadband Migration Conference: The Dynamics of Disruptive Innovation. The conference explored the role of the Internet in facilitating disruptive innovation. Vint Cerf opened the conference with a talk on the future of Internet security. He argued that the original design of the Internet allowed for "permissionless innovation." U.S. Department of Commerce Assistant Secretary for Communications and Information Lawrence E. Strickling presented the closing address and spoke of the need for robust multi-stakeholder processes when considering the future of the Internet. Peter Swire argues in his paper, *Why the Federal Government Should Have a Privacy Policy Office*, that establishing a privacy policy office either within the Department of Commerce or the Executive Office of the President will lead to better-informed privacy policy decisions by the administration. In the final publication from the conference, Marc Berejka advocates for government facilitation of a multi-stakeholder framework to promote Internet-based innovation.

Additionally, this issue includes two other papers that we are proud to publish. First, Daniel Gervais and Daniel Hyndman's *Cloud Control: Copyright, Global Memes and Privacy* explores privacy and copyright issues in the Cloud. Second, Daxton Stewart contributed his piece, *Can I Use This Photo I Found on Facebook?*, which presents an

1. Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. ON TELECOMM. & HIGH TECH. L. 141 (2003).

2. Michael K. Powell, *Preserving Internet Freedom: Guiding Principles for the Industry*, 3 J. ON TELECOMM. & HIGH TECH. L. 5 (2004).

3. Douglas C. Sicker & Joshua L. Mindel, *Refinements of a Layered Model for Telecommunications Policy*, 1 J. ON TELECOMM. & HIGH TECH. L. 69 (2002).

4. Jonathan Neuchterlein, *Antitrust Oversight of An Antitrust Dispute: An Institutional Perspective on Net Neutrality Debate*, 7 J. ON TELECOMM. & HIGH TECH. L. 19 (2009).

in-depth analysis of fair use as it applies to photographs on social networking sites.

Finally, I am immensely proud of the students from the University of Colorado Law School who are publishing their notes in this issue. Kristin Bailey tackles the tension between renewable energy investment and federal securities laws. David Cline presents an important argument for increasing competition in the wireless carrier market. Janna Fischer explores the iPad's effect on newspapers, and William Fischer takes a look at state-level implementation of the United Nations Convention on Biodiversity.

I would like to thank Managing Editor Brent Owen and Executive Editor Janna Fischer for all their help keeping this ship afloat throughout the semester. Production Editors Kendria Alt and William Fischer deserve high praise and gratitude for all their hard work getting this issue to print. Lisa Fischer has done an excellent job as Resources Editor. Articles Editors Doug Brake, Zak Brown, Angela Coleman, Chris Cook, and John Zwick were crucial in getting all of these articles ready for publication. Student Note Editors Kristin Bailey, Candyce Choi, David Cline, Jeff Graves, and Jessica Morgan were generous with their time helping the new members develop their student notes. Associate Editors Damion LeeNatali and Sara Radke saved the day on more than one occasion. I appreciate everyone's efforts and dedication to this publication. I would like to give a special thanks to Lauren Boesel, Associate Symposium Editor, who did an incredible job putting together the Economics of Privacy conference this December, which produced some incredible papers that I look forward to publishing in the spring. Thanks to Martina Hinojosa, Symposium Editor, for all her hard work on the upcoming Digital Broadband Migration Conference: The Challenges of Internet Law and Governance. I appreciate the contributions of all our members and am indebted to them for all their hard work.

Thanks to our faculty advisors, Paul Ohm and Harry Surden, for their continued efforts in making this an incredible publication. As well, I appreciate all the guidance from other faculty members who have taken time to lend support to our members who are working on their student notes, in particular Brad Bernthal, Andrew Crain, Andrew Hartman, Preston Padden, and Philip J. Weiser. Our journal office manager, Martha Utchenik, has been an invaluable support and source of institutional memory. We wish her all the best for her retirement and in her new adventures. I would like to recognize the work of the Silicon Flatirons Center, in particular Anna Noschese, Jamie Stewart, and the Silicon Flatirons Fellows, whose contributions are the foundation of many of the articles in the JTHTL.

Finally, I would like to dedicate this issue to our founder and new Dean of the Law School, Philip J. Weiser. Without his vision and

guidance, we would not have had one year of the JTHTL, much less these ten years under our belt. We are honored that he is now lending his considerable talents to leading the law school, and we look forward to his continued support of the journal.

Madelaine Maior
Editor-in-Chief

THE JOURNAL OF TELECOMMUNICATIONS AND HIGH TECHNOLOGY LAW TURNS TEN

Philip J. Weiser*

Just over ten years ago, a group of dedicated students founded the Journal on Telecommunications and High Technology Law at the Dark Horse, an iconic Boulder bar. When I went to law school in the early 1990s, few such journals existed; few courses in the area were offered; and I had yet to discover my own passion for the field. In my case, I caught the technology bug while an attorney at the Justice Department's Antitrust Division. After joining the faculty at Colorado Law, I found a new passion: bringing technology law to the classroom.

That night at the Dark Horse, the students who came to discuss founding a journal on technology law recognized an opportunity to build something special. With admirable gumption and strong aspirations, they set out on a new course—just as I was about to take a leave of absence. Their interest in telecommunications policy, innovation, technology, and entrepreneurship led them to create the Journal, using the flagship conference held by the Silicon Flatirons as a launching pad. In the winter of 2000, the first Silicon Flatirons flagship conference, *Telecommunications Law for the Twenty First Century*, generated a symposium issue of the University of Colorado Law Review.¹ That conference, which launched the Silicon Flatirons Center, demonstrates the interest of nationally-known commenters to come to Colorado to discuss their thoughts on cutting-edge technology policy issues.

After the Journal began, it published the proceedings of the annual Silicon Flatirons winter conference, now called the “Digital Broadband Migration” conference. The first issue memorialized a conference discussion that drew an impressive group of thought-leaders from academia to the University of Colorado Law School, including Kevin Werbach, Doug C. Sicker, James B. Speta, and Ellen P. Goodman. Leaders in government also attended that year and every year thereafter, delivering important addresses, like that given by the Federal Communications Chairman (FCC) Michael Powell in 2004.² By publishing the papers and speeches of these leaders, the Journal emerged as an attractive venue for academics, government officials, and industry leaders to engage with one another in the spirit of intellectual honesty

* Dean, University of Colorado School of Law; Executive Director and Founder, Silicon Flatirons Center for Law, Technology, and Entrepreneurship. Thanks to Therese Kerfoot for outstanding research assistance and the editors at JTHTL for their usual superb work.

1. For my overview essay of that issue, see Phil Weiser, *Paradigm Changes in Telecommunications Regulation*, 71 U. COLO. L. REV. 819 (2000).

2. See, e.g., Michael Powell, *Preserving the Internet Freedom: Guiding Principles for the Industry*, 3 J. ON TELECOMM. & HIGH TECH. L. 5 (2004).

and rigor, for which the annual Digital Broadband Migration conference has become known.

From the perspective of the students, the opportunity to interact so closely with giants of academia, government, and industry provided them with unique opportunities. Nick Alexander, who was one of those who helped to found the Journal, moved on to leadership positions at the FCC. James Wooll, the first Editor-in-Chief, and Rudy Verner, the first Managing Editor, have successful litigation practices in Colorado and continue to demonstrate the leadership they harnessed in bringing the journal to life. Subsequent Editors-in-Chief went on to technology companies, intellectual property practices at law firms, and the FCC, among other interesting opportunities. In all such cases, contacts made working on the Journal provided the students with a valuable springboard for their careers.

I am proud to say that many of the Journal alums return each year to participate in the Digital Broadband Migration conference discussion that continues to elevate the Journal's national reputation and raise the plane of technology policy discourse through significant and thought-provoking material. In 2002, we debated regulation of information platforms across the intersecting legal fields of telecommunication, antitrust, intellectual property, and First Amendment law in light of technological innovations permitted by the Internet and information technologies.³ Today, technological innovation continues to be a principal driver of hotly debated governance issues that span numerous areas of law; notably, the themes discussed at that 2002 conference remain relevant a decade later. Silicon Flatirons also now sponsors a yearly privacy conference that provides yet more intellectual leadership,⁴ reflecting the vision and energy of Professor Paul Ohm, who spearheads our Information Technology and Intellectual Property Initiative.

Over the course of its short history the Journal has published some of the most thoughtful, provocative, and interesting articles in the technology policy field. Consider, for example, "network neutrality," a term that first appeared in the Journal in Tim Wu's article *Network Neutrality, Broadband Discrimination*,⁵ which was critiqued thoroughly by Christopher Yoo,⁶ and launched as a policy initiative by FCC

3. See, e.g., Philip J. Weiser, *Law and Information Platforms*, 1 J. ON TELECOMM. & HIGH TECH. L. 1 (2002).

4. For an example of the high quality scholarship presented at the annual privacy conference, see, e.g., Jeffrey Rosen, *Free Speech, Privacy, and the Web that Never Forgets*, 9 J. ON TELECOMM. & HIGH TECH. L. 345 (2011).

5. Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. ON TELECOMM. & HIGH TECH. L. 141 (2003).

6. Christopher Yoo, *Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J. ON TELECOMM. & HIGH TECH. L. 23 (2004).

Chairman Michael Powell.⁷ Other notable contributions include Kevin Werbach, Doug Sicker, and Josh Mindel’s discussion of a “layered model” of telecommunications regulation,⁸ and regulatory icon Alfred P. Kahn’s examination of the deregulation of the telecommunications industry.⁹ But, the technology revolution addressed in the Journal is not limited to the Internet, the information technology sector, or entrepreneurship. Rather, articles by leading commentators and our students’ scholarly Notes have probed various privacy issues, biotech debates, and intellectual property matters.

With so many influential articles and driven, dedicated students to edit and write them, the Journal has far exceeded my expectations. In the years ahead, the Journal will capably address a series of significant challenges related to the nature and structure of government oversight of the Internet and emerging technologies. By 2022, the concept of a “digital broadband migration” will no longer be a question, or even a work-in-progress, but a concept whose time will have come. Consider, for example, that the FCC’s Technology Advisory Council—with our own Dale Hatfield providing sage counsel—has begun calling for the day when IP networks replace the traditional telecommunications networks entirely.¹⁰ To a periodical on technology founded on the heels of the dot-com bust, when many called the Internet into question, this challenge is an opportunity.

With technology policy, the need for a Journal that elevates our understanding of cutting-edge issues will never go out of fashion. Now that I am the Dean of Colorado Law, I am doubly proud that we have such a great publication to carry this banner.

7. Michael K. Powell, *The Digital Migration: Toward a New Telecom Act*, 4 J. ON TELECOMM. & HIGH TECH. L. 5 (2005).

8. Kevin Werbach, *A Layered Model for Internet Policy*, 1 J. ON TELECOMM. & HIGH TECH. L. 37 (2002); Douglas C. Sicker & Joshua L. Mindel, 1 J. ON TELECOMM. & HIGH TECH. L. 69 (2002).

9. Alfred P. Kahn, *Telecommunication: The Transition from Regulation to Antitrust*, 5 J. ON TELECOMM. & HIGH TECH. L. 159 (2006).

10. FCC’S TECHNOLOGY ADVISORY COUNCIL, TECHNOLOGY ADVISORY COUNCIL CHAIRMAN’S REPORT (Apr. 22, 2011), available at http://www.fcc.gov/encyclopedia/technology-advisory-council#technological_report.

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Policymakers in the Obama Administration have paid new attention to government-facilitated multi-stakeholder processes as a preferred means for developing best practices on the Internet.¹ This is an intentional evolution from a decade-old bias towards a largely self-regulatory approach. As now envisioned, policymakers themselves would be seen as stakeholders helping to guide or coax along the development of new norms.²

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1. Multi-stakeholderism does not have a hard and fast definition, but is intentionally flexible. In broad strokes, a multi-stakeholder process is comprised of representatives of groups or communities, both for profit and not, that aspire to develop norms that will guide those very same stakeholders' behavior.

2. Compare the Clinton Administration's "Magaziner Report" and its hesitancy to invite government engagement to recent statements from the Obama Administration. Per the Magaziner Report, "[G]overnments should encourage industry self-regulation wherever appropriate and support the efforts of private sector organizations to develop mechanisms to facilitate the successful operation of the Internet. Even where collective agreements or standards are necessary, private entities should, where possible, take the lead in organizing them." President William J. Clinton & Vice-President Albert Gore, Jr., *A Framework for*

The prominence of the Internet in today's society and the persistence of certain challenges online provide good justification for greater governmental engagement. Looking more deeply and, in particular, by building on lessons from Complexity Theory,³ this paper offers more fundamental reasons for employing a multi-stakeholder strategy. Observations from Complexity Theory suggest that we can improve welfare at the individual and societal level by building up mutual trust over time.⁴ Extrapolating, the multi-stakeholder framework fleshed out here is consciously aimed at cultivating formal and informal institutions that focus on fostering trust among industry, civil-society, and government stakeholders.

Complexity Theory also reminds us of the impossibility of predicting future innovations. Therefore, the multi-stakeholder framework eschews rules and rulemaking that might dampen innovation. Instead, it urges policymakers to identify the public imperatives they wish to protect at a high, principles-based level. Using those principles as a foundation, stakeholders ought to then convene themselves to develop context-specific methods for meeting the imperatives. Institutions, whether governmentally led or not, must be able to detect and deter cheating against the agreed-upon goals to maintain trust in the system. Finally, lessons from such oversight should be fed back into the norm

Global Electronic Commerce, THE WHITE HOUSE, <http://clinton4.nara.gov/WH/New/Commerce/read.html> (last visited Dec. 20, 2011) [hereinafter *Magaziner Report*]. In its 2010 green paper on "Commercial Data Privacy and Innovation in the Internet Economy," the U.S. Commerce Department observed, "The government also has an important role to play in . . . a multistakeholder approach to developing voluntary codes of conduct as a convener (in addition to or instead of as a traditional regulator). In this capacity, the government can provide the coordination and encouragement to bring the necessary stakeholders together to examine innovative new uses of personal information and better understand changing consumer expectations . . ." INTERNET POLICY TASK FORCE, U.S. DEP'T OF COMMERCE, COMMERCIAL DATA PRIVACY AND INNOVATION IN THE INTERNET ECONOMY (2010) [hereinafter *Green Paper*], available at http://www.ntia.doc.gov/files/ntia/publications/iptf_privacy_greenpaper_12162010.pdf; see also, INTERNET POLICY TASK FORCE, U.S. DEP'T OF COMMERCE, CYBERSECURITY, INNOVATION AND THE INTERNET ECONOMY (2011), available at http://www.nist.gov/customcf/get_pdf.cfm?pub_id=908648 ("The multi-stakeholder process relies on the institutions that so successfully built the Internet itself, drawing from businesses, consumers, academia, and civil society, as well as from government.").

3. See M. MITCHELL WALDROP, *COMPLEXITY: THE EMERGING SCIENCE AT THE EDGE OF ORDER AND CHAOS* (Touchstone 1992). A complex system is one in which any number of independent agents is interacting with each other in a great many ways. *Id.* at 11. These systems are widespread and exist in different size and time scales; e.g., ranging from interactions at the cellular level over minutes or hours to interactions among man-made organizations in the economic realm over years and decades. Complexity Theory examines behavior of these systems and attempts to identify common properties. A central trait of each system is that it exhibits coherence, or order, to greater or lesser degrees, even in the face of steady change. JOHN HOLLAND, *HIDDEN ORDER: HOW ADAPTATION BUILDS COMPLEXITY* 4 (1995).

4. See discussion *infra* Part II.A.

development process to keep practices up to date.

There are several risks to the success of multi-stakeholderism. To a great extent, those risks can be mitigated by deep investment, largely from the private sector. The overarching point is that a new paradigm such as the one outlined here is necessary if we are to continue to enjoy the fruits of Internet-based innovation while at the same time avoiding the threats to innovation that miscalculated, prescriptive regulation can create.

INTRODUCTION

In its early days, federal policymakers saw the potential of the commercial Internet and foresaw the threat that precipitous regulation could pose to it. In *A Framework for Global Electronic Commerce* (also known as the “Magaziner Report”), officials from the Clinton Administration recommended a decidedly hands-off approach.⁵ By default, the private sector was asked to lead and address policy challenges on the Internet via self-regulation.⁶

Flash forward 15 years and the wisdom of having taken this initial approach is clear. The mass market Internet has emerged and become pervasive. It has spawned countless new services and technologies. It has generated extraordinary value and, for those with the right formula, incredible wealth.⁷ It has given birth to businesses large and small, as well as to social networks that span continents. It has helped fuel democratic uprisings in long-oppressed nations.⁸

At the same time, certain challenges continue to frustrate us. Those involving privacy, cybersecurity, piracy, and more efficient criminal enterprises are some of the most prominent. Moreover, the Internet has come to compete with once-siloed and separately regulated communications services such as plain old telephony and television, creating regulatory disparities between the old guard and the new that distort competition.

To better manage the disconnect—to both sustain innovation and better address public concerns—Internet policymakers in the Obama Administration have advocated tweaking the self-regulatory model. They have highlighted the important role that multi-stakeholder processes have played in facilitating the development of technical standards for the

5. See Magaziner Report, *supra* note 2.

6. *Id.*

7. See Michael Dunlap, *30 Richest Internet Entrepreneurs*, INCOME DIARY (Mar. 27, 2009), <http://www.incomediary.com/30-richest-internet-entrepreneurs>.

8. See *Egypt's Facebook Revolution: Wael Ghonim Thanks the Social Network*, HUFFINGTON Post (May 25, 2011, 7:30 PM), http://www.huffingtonpost.com/2011/02/11/egypt-facebook-revolution-wael-ghonim_n_822078.html.

Internet.⁹ And as an addendum to the Magaziner Report, they have urged that officials take a more active role in fostering multi-stakeholderism to address policy issues.¹⁰ This paper offers a more deeply seated rationale than one typically sees in policy debates to justify governmental cultivation of multi-stakeholder processes—a rationale that relies heavily on lessons from the inherent complexity of the Internet and of the policymaking process. Based on those deeper reasons, the paper also provides guidance for effective multi-stakeholder initiatives.

The remainder of this paper provides more detail on the Obama Administration's rationale for advancing multi-stakeholderism; it introduces the reader to Complexity Theory's major concepts; and it explains how Complexity Theory helps us understand the dynamics of the Internet, of policymaking, and of economic growth. To tie these threads together, the paper draws on one particular lesson from Complexity Theory—namely, that agent-based strategies that inculcate trust tend to generate win-win outcomes at the individual and societal levels. Accordingly, the multi-stakeholder approach ought to be configured to build up trust. The paper concludes with steps that can be taken to achieve that goal.

I. OUR CONTEXT

No doubt the libertarian streak among the digerati remains strong, and they instinctively resist any governmental role in guiding norm development on the Internet. As appealing as that state-of-nature might seem, the reality is that the Internet has become so interwoven into the

9. See, e.g., Larry Strickling, NTIA Administrator and Assistant Secretary, Remarks at the Danish Internet Governance Forum (Aug. 23, 2001), *transcript available at* <http://www.ntia.doc.gov/speechtestimony/2011/remarks-assistant-secretary-strickling-danish-internet-governance-forum> (“The Internet we enjoy today—this marvelous engine of economic growth and innovation—did not develop by happenstance. It emerged as the result of the hard work of multistakeholder organizations such as the Internet Society, the Internet Engineering Task Force, and the World Wide Web Consortium. These organizations have played a major role in designing and operating the Internet we know today.”).

10. At the same time that the Obama Administration has said governments should advance multi-stakeholderism, they have been careful to note that that approach ought not tip to government control of the Internet. See, e.g., Hillary Clinton, U.S. Secretary of State, Remarks at the Conference on Internet Freedom in the Hague, Netherlands (Dec. 8, 2011), *transcript available at* <http://www.state.gov/secretary/rm/2011/12/178511.htm> (“So right now, in various international forums, some countries are working to change how the internet is governed. They want to replace the current multi-stakeholder approach, which includes governments, the private sector, and citizens, and supports the free flow of information, in a single global network. . . . [T]he United States supports the public-private collaboration that now exists to manage the technical evolution of the internet in real time. We support the principles of multi-stakeholder internet governance developed by more than 30 nations in the OECD earlier this year. A multi-stakeholder system brings together the best of governments, the private sector, and civil society. And most importantly, it works.”).

fabric of society that at times and on certain topics political forces already do build up and reach a tipping point, bringing the government onto the field to establish policy either by law or regulation. In reporting on a 2008 Silicon Flatirons summit on information policy—and in particular, in discussing the future direction of the network neutrality issue—now-Dean Phil Weiser observed that this phenomenon really means “[t]he ‘hands off the Internet’ era is over.”¹¹ Weiser’s comment was set against the backdrop of a specific tipping event. In the mid-2000s, the Federal Communications Commission had articulated certain Internet Freedom Principles aimed at assuring that providers of edge applications and services could reach their customers without unreasonable interference from last-mile broadband providers.¹² The FCC’s 2008 attempt to enforce those principles against Comcast ended up in an appellate court challenge;¹³ leading many, like Weiser, to call it like it was: the government is a stakeholder.¹⁴

Expressing a similar sentiment, NTIA Administrator Larry Strickling observed in a 2010 speech before the Media Institute, “that was then and this is now.”¹⁵ Strickling laid out the broader public interests now at play on the Internet.

It’s now time to respond to all the social changes being driven by the growth of the Internet. . . . We enter this new decade recognizing that we rely on the Internet for essential social purposes: health, energy efficiency, and education. It’s also a general engine for economic and social innovation. We must take rules more seriously if we want full participation, but we must keep the need for flexibility in mind.

. . . .

Despite the tremendous economic growth and social innovation that has occurred online over the past decade, policy tensions . . . have arisen and have not been effectively addressed. Given all the human actors involved in the Internet with all their competing interests, we

11. Philip J. Weiser, *Exploring Self Regulatory Strategies for Network Management*, FLATIRONS SUMMIT ON INFO. POL’Y (2008), <http://www.siliconflatirons.org/documents/publications/summits/WeiserNetworkManagement.pdf>.

12. Michael K. Powell, Chairman, Fed. Comm’ns Comm’n, Remarks at the Silicon Flatiron Symposium on The Digital Broadband Migration: Toward a Regulatory Regime for the Internet Age 2 (Feb. 8, 2004), *transcript available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-243556A1.pdf.

13. *Comcast Corp. v. FCC*, 600 F.3d 642 (D.C. Cir. 2010).

14. *See* Weiser, *supra* note 11.

15. Lawrence E. Strickling, Assistant Secretary of Commerce, Nat’l Telecomms. & Info. Admin., Remarks at the Media Institute (Feb. 24, 2010), *transcript available at* <http://www.ntia.doc.gov/speechtestimony/2010/remarks-assistant-secretary-strickling-media-institute>.

have to ask, do governments have to be involved to sort out these interests so that the Internet will continue to thrive?

I say yes but just as emphatically, I say that the government's role need not be one of a heavy-handed regulator. There's little question that our existing regulatory structures are poorly equipped to deal with these issues. They are too slow, they are too backward looking, and they are too political to be effective.

But it concerns me that in the absence of some level of government involvement, we will lose the one thing that the Internet must have—not just to thrive, but to survive—the trust of all actors on the Internet.¹⁶

Not surprisingly, Strickling's comments were read with suspicion by some in the Internet community, who saw in them seeds of betrayal and the potential onset of an explicit regulatory mindset.¹⁷ The response from some corners was so strident that Strickling saw the need to clarify the record in a follow-on speech at the Internet Society:

As the importance of the Web grows, it is imperative that we take maximum advantage of the successful Internet organizational models. We have a responsibility to assure our design principles—our policies—are producing desirable outcomes. And the challenge for governments today is to build on that cooperative, global, voluntary spirit. Perhaps government can find ways to help the growing list of Internet stakeholders participate in the development of not only technology, but also public policy solutions that address the Internet's leading challenges. The model may not be new but what is new is the need to apply this model to a broader range of problems, not just technical or administrative, but also social and legal challenges.

....

At the opening of the third decade of Internet policymaking, we are at an 'all hands on deck' moment. The policy challenges we must deal with are far broader than we have previously faced. In addition to continuing the necessary technical innovation of the Internet, the

16. *Id.*

17. See Kieren McCarthy, *US Government Rescinds 'Leave Internet Alone' policy*, REGISTER (Feb. 27, 2010, 00:06 GMT), http://www.theregister.co.uk/2010/02/27/internet_3_dot_0_policy; see also Mike Masnick, *Is the Commerce Department Really Ready to Regulate The Internet?*, TECH DIRT (Mar. 3, 2010, 10:30 PM), <http://www.techdirt.com/articles/20100301/2015418350.shtml>; *What Larry Strickling Meant to Say (and Should have Said)*, CTR. FOR DEMOCRACY & TECH. (Mar. 2, 2010), <http://www.cdt.org/blogs/brock-meeks/what-larry-strickling-meant-say-and-should-have-said>.

Internet community needs to work with governments and other stakeholders to share your knowledge about how to build flexible, sustainable, global multi-stakeholder institutions that can help the world face the social and public policy challenges of the global Internet environment.¹⁸

Core to each perspective—to those leery of a government role in multi-stakeholderism and to those advocating it—is the shared view that the Internet remains unique. That, because of the Internet’s innovative capacity, standard policymaking frameworks do not work well. The Internet’s time scale is out of sync with the law’s pace of change. The Internet continues to evolve rapidly. The law is plodding.¹⁹

But to observe that the law is slow to change does not exclude a role for government policymakers. You can distinguish policy from law by ascribing to the policymaker a much broader, sometimes amorphous role. The policymaker aims to bring value to society by, yes, shaping black-letter law. The policymaker also interprets law and applies it to given circumstances in those innumerable cases where the black-letter law does not clearly dictate a particular outcome. And looking forward, the policymaker is a norm shaper. Using the bully pulpit to coax, cajole, and persuade, and by modeling expected behavior, the policymaker can influence behavior without enacting law.

Officials from the Obama Administration have been promoting the notion that government can foster norm development on the Internet by using the multi-stakeholder process and by cajoling stakeholders to develop best practices.²⁰ In May 2011, for instance, the White House released its International Strategy for Cyberspace.²¹ It refers to multi-

18. Lawrence E. Strickling, Assistant Secretary of Commerce, Nat’l Telecomms. & Info. Admin., Remarks at the Internet Society’s INET Series: Internet 2020: The Next Billion Users (Apr. 29, 2010), *transcript available at* <http://www.ntia.doc.gov/speechtestimony/2010/remarks-assistant-secretary-strickling-internet-societys-inet-series>.

19. Strickling Remarks at the Media Institute, *supra* note 15.

20. *See supra* notes 10-12.

21. *See* WHITE HOUSE, INTERNATIONAL STRATEGY FOR CYBERSPACE: PROSPERITY, SECURITY, AND OPENNESS IN A NETWORKED WORLD (2011), *available at* http://www.whitehouse.gov/sites/default/files/rss_viewer/international_strategy_for_cyberspace.pdf (“The United States salutes [multi-stakeholder organizations] and will continue to recognize the unique contribution of such fora that represent the entire Internet community by integrating the private sector, civil society, academia, as well as governments in a multi-stakeholder environment.”); *see also* Danny Weitzner and Karen Kornbluh, *Agreement Reached on Internet Policymaking Principles*, WHITE HOUSE OFF. OF SCI. & TECH. POL’Y BLOG (July 1, 2011, 11:30 AM EST), <http://www.whitehouse.gov/blog/2011/07/01/agreement-reached-internet-policymaking-principles> (highlighting, among other things, the OECD’s adoption of Internet policymaking principles that commit countries to “co-operate in multi-stakeholder policy development processes”).

stakeholder governance as an emerging practice and urges that such efforts include all appropriate stakeholders.²² In June 2011 the Administration joined other OECD countries in endorsing Internet Policymaking Principles, one of which is to “Encourage multi-stakeholder co-operation in policy development processes.”²³ And the Commerce Department’s Internet Policy Task Force has called for new multi-stakeholder initiatives in order to address privacy and cybersecurity issues more effectively.²⁴

The follow-through on these pronouncements is nascent. Nonetheless, as described in the following pages, despite the skepticism expressed by some, the reasons for following through and investing in multi-stakeholderism lie in understanding the dynamics at work.

A. *The Language of Complexity*

Some might look at the swirl of activity on the Internet and in policymaking circles and see chaos, but the more appropriate description is that we live in a world characterized by complex systems and we are observing complexity at work.

Over the last 25 years thinkers who operate across multiple disciplines have been cultivating a new theory of complexity or complexity science.²⁵ At its core, Complexity Theory grapples with the fact that most of the world is made up of systems of interacting actors or agents.²⁶ At a micro level, each agent is propelled by its own set of forces and it moves within its own set of circumstances.²⁷ Interactions among agents can sometimes be anticipated and sometimes not.²⁸ Even when classes of actors are propelled by the same rules of thumb—when subsets of actors may act cooperatively—that does not eliminate tension in the system because the confluence of actions across the field of actors play out in novel ways—the system experiences perpetual novelty.²⁹ At the same time, system-wide unpredictability does not yield chaos—even

22. *Id.*

23. Communiqué on Principles for Internet Policy-Making, OECD, The Internet Economy: Generating Innovation and Growth 4 (June 28-29, 2011), *available at* <http://www.oecd.org/dataoecd/40/21/48289796.pdf>. In December 2011, the OECD’s decision-making body, its Council, formally adopted the principles and instructed OECD staff to assist countries in following them. *See* OECD, OECD Council Recommendation on Principles for Internet Policy Making 3-4 (Dec. 13, 2011), *available at* <http://www.oecd.org/dataoecd/11/58/49258588.pdf>.

24. *Internet Policy*, NAT’L TELECOMMS. & INFO. ADMIN., <http://www.ntia.doc.gov/category/internet-policy> (last visited Dec. 14, 2011).

25. Waldrop, *supra* note 3, *passim*.

26. *Id.* at 145.

27. *Id.*

28. *Id.* at 146.

29. *Id.* at 147.

though system-level behavior is unpredictable, as we see all around us, these dynamics result in neither chaos nor stasis.³⁰ We see episodes of change, but at the same time, we see patterns and relative stability emerge in many, many quarters.³¹ When agents are adaptable, like humans, they perceive their individual context and adjust their behavior.³² And they adjust their behavior in a way that, at the system level, yields neither absolute chaos nor stasis.³³

Order, in other words, often just emerges. As an extremely simple example: globally, men tend to wear pants and short hair, and women tend to wear skirts and long hair. There cannot be a gene for wearing skirts, however. This is evidenced by the fact that in some cultures men wear kilts, togas, and sulus. Similarly, there is not a gene for hair length. Our patterns of dress have emerged. Other norms of behavior emerge and appear throughout society.

Recognizing that systems such as these permeate our world—systems that simultaneously harbor change and relative stability at the micro and macro levels, and that at times generate new manifestations of order—Complexity Theorists have embarked on understanding what they can of the evolution of complex systems.³⁴ Even though individual outcomes are unpredictable, what, for example, can be said about the patterns of change? What impact do different rule sets—either endogenous or external to the system—have on system dynamics? And what can be said about systems where the actors are not quite automatons like ants marching, but are highly adaptive like you and me?

B. *The Conscious Creation of Order*

As others have commented, both the Internet and our policymaking processes can be examined as complex systems.³⁵ The Internet's reliance on TCP/IP, HTML, and other core standards seems stable, yet those technical inputs yield extensive ongoing innovation. Aspects of the U.S. policymaking process are ingrained, often frustratingly, and at the same time the legal landscape is constantly shifting.

30. ERIC D. BEINHOCKER, *THE ORIGIN OF WEALTH: EVOLUTION, COMPLEXITY, AND THE RADICAL REMAKING OF ECONOMICS* 167 (2006).

31. *Id.*

32. Waldrop, *supra* note 3, at 146.

33. *Id.*

34. *Id. passim.*

35. Pierre de Vries, *The Resilience Principles: A Framework for New ICT Governance*, 9 J. ON TELECOMM. & HIGH TECH. L. 137 (2011), available at http://jthtl.org/content/articles/V9I1/JTHTLv9i1_DeVries.PDF; Barbara A. Cherry, *The Telecommunications Economy and Regulation as Coevolving Complex Adaptive Systems: Implications for Federalism*, 59 FED. COMM. L.J. 369 (2007), available at <https://www.msu.edu/~bauerj/complexity/cherryfclj.pdf>.

As noted above, one of the biggest challenges we face in contemplating policymaking in the Internet realm is the fact that the time scale of the policymaking system is wildly out of sync with Internet time. Recognizing that incongruence should give us reason to pause. The digital libertarian might say that, since change is fast and unpredictable, any governmental meddling will be counterproductive. To this, my recommendation is that skeptics look even more deeply at the forces driving Internet innovation and the goals of policymaking. Most of those deeper forces are laid out in Eric Beinhocker's *Origin of Wealth*.³⁶

Beinhocker observes that over the course of millennia man has created items of greater value and has accumulated greater wealth by consciously bringing order into our existence in new ways.³⁷ Beinhocker sees, as we should, millennia of man-made attempts to engender greater order.³⁸ As an early example, *Homo habilis* took stones and shaved them to fine, more orderly points, creating better tools for hunting, cleaning carcasses, and puncturing skins so they could be sewn together with sinewy thread. Back in camp, gatherers either found rocks shaped like bowls or fashioned rocks into bowls and, with a complementary pestle, were able to more easily grind nuts and roots into a more edible mash. Over time, our long-ago ancestors improved their stone shaping and other tool building skills and, as a result, became more effective hunters for and gatherers of protein, fatty foods, and carbohydrates. In short, early hunter-gatherers shaped objects into new forms of order and as a result produced much greater wealth for themselves and their offspring.

Fast forward tens of thousands of years and instead of hunting for game and other sources of nourishment, we can now visit a web site, fill out an electronic form and have a potpourri of foodstuffs delivered by van to our doors before we wake up the next morning.³⁹ This modern-day hunting relies on numerous manifestations of physical order built up over time and layered atop each other, with many of the speediest order-generating tools developed only in the last century or even more recently. Today's "hunting" involves clicking our way to a web site and communicating with a remote computer over wireless and wired lines using a digital language. At the other end of the communication, warehouse workers track down the foodstuffs we've requested, crate them, and route them to a van. Before daybreak, the van driver rolls onto his route, leaving crates of food at dozens of locations while customers

36. See BEINHOCKER, *supra* note 30.

37. *Id.* at 316. "All wealth is created by thermodynamically irreversible, entropy-lowering processes. The act of creating wealth is an act of creating order." And "things with low entropy have value." *Id.*

38. *Id.* at 316-19.

39. See AMAZON.COM, <http://www.amazon.com> (last visited Dec. 14, 2011); KING SOOPERS, <https://homeshop.kroger.com/sf/servlet/storefront> (last visited Dec. 14, 2011).

sleep warmly in their beds.⁴⁰

We have come a long way in generating order and the things to which we assign value. Beyond this innate desire to use tools to foster order in our lives, Beinhocker points to three other ever-present dynamics that contribute to collective wealth-building.

Our innovative instincts and ability to progress are enhanced by both specialization and trade.⁴¹ Hunter-gatherer bands likely divided up their duties by skill set. They assigned responsibility for value-creating tasks to different members according to what they could do best. The stronger, faster men shouldered primary responsibility for hunting and fighting, while those men getting on in years may have stayed back in camp and used their experience to construct and maintain tools and weapons—to make ever sharper and truer spears—and to teach those skills to the youngest. Accounts were settled among the group when the more productive hunters returned and traded meat for weaponry with the more skilled but less mobile tool builders.⁴²

Nowadays, only a very small number of us actually have the ability to hunt for or gather up our food. Most of us have become specialized at some other skill. In return for whatever order, or thing of value, we generate in our day jobs, we are compensated in money for our specialty and then we trade that other manifestation of value—money—for food, goods, and services.

Embedded in this scenario is the third of Beinhocker's simple but profound insights. Man greatly accelerated his ability to accumulate, redistribute, and pass on wealth after inventing money.⁴³ But more

40. The order-generating, economic process is ubiquitous. As just one more example, each morning I hand over a thing of value—a five-dollar bill—to the cashier at the local coffee shop. The barista takes a small cup of roasted beans, grinds them, forces scalding water through them, adds a touch of chocolate syrup and hands me my morning pick-me-up. The barista has generated a new form of order—a chocolate mocha—from otherwise disparate components and, in doing so, has produced an item for which I'm willing to exchange value. By performing this process millions of times a day, and by pricing my drink for a profit, the company that runs thousands of coffee shops like my local one accumulates extraordinary wealth. The essence of the transaction, however, is the same as it has been for millennia. An innovator transforms materials into a new manifestation of order and then trades it for another manifestation of value, or as we say nowadays, sells it for money at a profit.

41. See BEINHOCKER, *supra* note 30, at 6-7. "No other species has developed the combination of trading among strangers and a division of labor that characterizes the human economy. In fact, Richard Horan of Michigan State University and his colleagues argue that it was this unique ability of *Homo sapiens* to trade that gave them the critical advantage in their competition with rival hominid species such as *Homo neanderthalensis*." *Id.* at 7.

42. See, ROBERT WRIGHT, *NONZERO – HISTORY, EVOLUTION & HUMAN COOPERATION* 21 (Abacus Books 2001). In a hunter-gatherer society "typically there is a division of labor within the whole. (Some people make the nets, some people man the nets, some people chase the rabbits.) One minute you're a bunch of independent foragers, and the next minute you're a single, integrated rabbit-catching team, differentiated yet united." *Id.*

43. See NIALL FERGUSON, *THE ASCENT OF MONEY: A FINANCIAL HISTORY OF THE*

broadly, Beinhocker points out that man not only has a propensity to create new physical technologies, but also what he calls “social technologies.”⁴⁴ A social technology is a conceptual construct that likewise helps us foster order—that serves as yet another means by which society can create things of value and generate wealth. Though social technology is rooted in intangible ideas, it is bound up in our existence. Money and all its modern-day manifestations, such as my online credit card purchase of groceries, are of course foundational. So too are language, writing, math and the sciences.

Just as we see ongoing innovation in physical technology, while it may not be as apparent because it is not as tangible, we also have ongoing innovations in social technologies. By putting ink on paper, or by storing digitized information on a hard drive, we can create corporations, stock holdings and limited liability corporations. Financiers enable investment and risk management by creating liens, bonds, tiers of stock ownership, mutual funds, stock indexes, hedging strategies and credit default swaps—new forms of social technology that in turn facilitate creating things of value and accumulation of wealth. The written word gives us contracts, educational tools, literature, and news.

Importantly, Beinhocker is not saying that the world is ordered, nor that there could be an optimal degree of order.⁴⁵ In fact, Beinhocker points out that economic development is its own complex adaptive system.⁴⁶ Each of us innately seeks greater order in order to improve our quality of life. Each of us applies tremendous energy seeking out those tools and other manifestations of order that make our lives more comfortable. Day-in, day-out, we also create some manifestation of order ourselves so that we might trade our end products (our work) for compensation. But while at the individual level we have a degree of control over how we pursue wealth-building, the macro-economic wealth building process is (and I would add, should be) an unpredictable complex system.

At the same time, the complex system we know as our economy creates a never-ending stream of dilemmas for policymakers. The challenge for policymakers as a group is to shape laws and norms in a

WORLD 4 (2008) (“money is the root of most progress . . . the ascent of money has been essential to the ascent of man”).

44. See, e.g., BEINHOCKER, *supra* note 30, at 15-16.

45. *Id.* at 355. “In a world governed by the Second Law of Thermodynamics, successful exploitation of one’s niche in the current environment is a necessary condition for survival – calories in must be greater than calories out, and money in must be greater than money out. But, as we also know, the shelf life of strategies in evolutionary systems can be quite short, so one must continuously explore new strategies, or risk finding oneself stuck in a poor position when the environment inevitably changes.” *Id.*

46. *Id.* at 19-20.

way that supports value creation not just for the benefit of the innovator, but also for the well-being of society as a whole. As lawyers recognize, the creation and management of a set of laws is essential to prosperity at the individual and societal level. Extrapolating from Beinhocker, the creation and implementation of law is a means of fostering order so that rights and wrongs, of all sorts, are understood and protectable, and so that as a society we can be more productive. The job of the policymaker is then, among other things, to shape the legal and governmental framework so that it accommodates these forces for progress.

Of course, it is no simple matter to determine what is and is not the proper policy contribution to fostering progress. Policymakers are only partly like the toolmakers from millennia ago. They both aspire to create a thing that produces value for the inventor and for the user of that thing. Yet, the age-old toolmaker's task is more complicated than it is complex. The toolmaking process is more self-contained. In democratic society, policymaking is characterized by the push and pull of the competing interests and values of stakeholders and society at large. We live in a swirling, ever-evolving environment. We see incongruities, large and small. We see pervasive competition among promoters of different technological—both physical and social—paths forward.

The Internet ecosystem can be particularly vexing for policymakers because it is both so clearly producing social good but also is unpredictable and is destabilizing many legacy institutions. In this context, how does one preserve the benefits derived from those institutions, while at the same time allow the Internet to generate commercial and social welfare in the organic fashion that it does? How does one establish a new policymaking path?

II. COMPLEXITY, TRUST, AND POLICYMAKING

The remainder of this paper aims to make the case for re-casting Internet policymaking as a mostly cooperative, trust-building undertaking among stakeholders. As envisioned, 21st century policymaking for Internet-based issues should pursue a three-prong strategy:

1. Build up trusted stakeholder networks
2. Within those networks, articulate expected behavior not via detailed, prescriptive implementation rules, but rather by developing higher-level, principle-based objectives
3. Cooperatively elaborate upon these principles over time via codes of conduct and assure meaningful enforcement

There is an important corollary here. Blindly transposing all 20th century regulations onto Internet-based communications is foolhardy and

likely counterproductive. Internet services cannot be jurisdictionally bounded like legacy, siloed offerings.⁴⁷ It would be counterproductive (even, impossible) to reengineer the Internet to achieve that goal. Global, ubiquitous, and relatively cheap interconnectivity creates the platform for the novel offerings that are rapidly generating new wealth and welfare. The framework suggested here exploits this interconnectedness and proposes a model based on shared responsibility.

A. *What Complexity Theory Tells Us about Trust*

Unfortunately, Complexity Theorists have not spent much time translating their discoveries into specific guidance for public policymaking. How do we harness the fact that at a macro level humans develop patterns of behavior? How do we shape those patterns to serve the public good? Those few Complexity Theorists who have tread in this direction, however, have come to a common conclusion: *mutual trust among individuals enhances both individual and collective welfare*.⁴⁸

Intuitively, this makes sense. The less we have to look over our shoulders to assure we are not being stabbed in the back—and the more faith we can put in the individuals with whom we are dealing—the lower the social cost of our transactions, and the more long-term benefit we derive from the entire trust-environment in which we operate.

Beyond Complexity Theorists, writers of various stripes connect high degrees of trust with individual and collective success. Generally speaking, societies that enjoy high, society-wide levels of mutual, interpersonal trust also enjoy high levels of GNP per capita; based on survey data, wealth-building correlates with trust-building.⁴⁹ Why? Because trust encourages personal and collective behavior in a manner that, by and large, respects local and society-wide interests.⁵⁰

47. Washington's decade-long struggle to determine the regulatory classification for, and treatment of, voice-over-IP (or VoIP) is the quintessential example here. *See, e.g., How Internet Protocol-Enabled Services Are Changing the Face of Communications: A Look at the Voice Marketplace: Hearing Before the Subcomm. on Telecommunications and the Internet of the H. Comm. On Energy and Commerce, 108th Cong. (2005).*

48. Bienhocker, *supra* note 30, at 433 ("There is an important correlation between trust and economic success. High trust leads to economic cooperation, which leads to prosperity, which further enhances trust in a virtuous circle."); WRIGHT, *supra* note 43, at 304 ("societies that don't solve the 'trust' problem, that don't discourage rampant parasitism, have tended to lose out to societies that do").

49. *See* Ronald Inglehart, *Culture and Democracy*, in *CULTURE MATTERS: HOW VALUES SHAPE HUMAN PROGRESS* 80, 90 (Lawrence E. Harrison & Samuel P. Huntington eds., 2000) ("even when we control for levels of economic development, interpersonal trust is significantly correlated with the society's level of GNP/capita").

50. *See, e.g.,* Mariano Grondona, *A Cultural Typology of Economic Development*, in *CULTURE MATTERS: HOW VALUES SHAPE HUMAN PROGRESS* 44, 48 (Lawrence E. Harrison & Samuel P. Huntington eds., 2000) ("To trust the individual, to have faith in the individual, is one of the elements of a value system that favors development. In contrast, mistrust of the

Of course, neither intuition nor correlation “prove” that mutual trust builds welfare. This is where Complexity Theorists dig in and attempt to apply the scientific method. These scientists look for replicable outcomes. Robert Axelrod has done some of the most noteworthy work in this area.⁵¹ Since the early 1980s, Axelrod and his many collaborators have run experimental models on different versions of the Prisoner’s Dilemma game. The basic puzzle is well known—whether in a given instance two actors should behave cooperatively with each other or try to cheat the other (i.e., defect) when the actors cannot communicate directly, and when the incentives to cooperate or cheat are not skewed wildly in one direction or the other. Axelrod builds on the Prisoner’s Dilemma game by “iterating” (allowing actors to engage each other in the game repeatedly). Importantly, he allows for strategy innovation—they allow their computerized actors to develop an indefinite range of strategies for maximizing their *own*, not the collective, well-being. He exploits today’s computing capacity by populating the system with hundreds of independent actors, and he runs his models through the computer over and over again.⁵²

In his modeling exercises, patterns emerge and move in one of two general directions. Those who cheat other agents early, repeatedly, and *without repercussion* amass significant “wealth,” and more often than not, their behavior engenders a pervasive culture of cheating which limits overall wealth creation in the system.⁵³ From a societal perspective, the other direction leads to win-win outcomes, where both individual and group welfare tend to rise over time.⁵⁴ Along this other direction, most successful actors employ a tit-for-tat (or similar) strategy, and other actors are drawn to that strategy over time.⁵⁵ This is the key finding. A tit-for-tat strategy says, “I will *trust* you and act in our mutual interests, but if you cheat me, I will discipline you for cheating, and *then* trust you again in our next encounter in hopes that we will both cooperate.”⁵⁶

individual, reflected in oversight and control, is typical of societies that resist development”); EDWARD O. WILSON, *CONSILIENCE: THE UNITY OF KNOWLEDGE* 276 (1998) (“In one form or another. . . dilemmas that are solvable by cooperation occur constantly and everywhere in daily life. The payoff is variously money, status, power, sex, access, comfort and health. Most of these proximate rewards are converted into the universal bottom line of Darwinian genetic fitness: greater longevity and a secure, growing, family.”); STEPHEN M.R. COVER, *THE SPEED OF TRUST* (2006).

51. ROBERT AXELROD, *THE COMPLEXITY OF COOPERATION: AGENT-BASED MODELS OF COMPETITION AND COLLABORATION* (1997) [hereinafter *COMPLEXITY OF COOPERATION*]; ROBERT AXELROD & MICHAEL D. COHEN, *HARNESSING COMPLEXITY: ORGANIZATIONAL IMPLICATIONS OF A SCIENTIFIC FRONTIER* (2000).

52. *COMPLEXITY OF COOPERATION*, *supra* note 51, at 14-23.

53. *Id.* at 21.

54. *Id.* at 20-21.

55. *Id.*

56. Punishment need not be retributive. Arguably, punishment should be no more severe

According to Complexity Theorists, systems dominated by such behavior are exhibiting “strong reciprocity.”⁵⁷ At the core of such systems is a willingness to trust other actors, to discipline those who cheat, but also to trust them again in hopes that they have reformed their ways.⁵⁸

B. *Applying the Lesson*

It may now be clear why Complexity Theorists have shied away from integrating their learning into specific public policy challenges. How do you translate the observation that systems exhibiting strong reciprocity yield win-win outcomes (individual and collective wins) into a policymaking strategy? How do policymakers actively engage in the development and maintenance of trust-focused governance systems? By now, it should be clear that this paper recommends multi-stakeholderism for Internet policymaking—but *multi-stakeholderism consciously designed to inculcate trust among participants*.

This is the part of the multi-stakeholder policymaking process that has not received sufficient attention. As participants work on the issue of the day, they need to keep top-of-mind that they are working both on the substance of the problem and on cultivating trust among themselves. This is where and why government engagement in the multi-stakeholder process has a role. Not to suggest that government policymakers are without bias; but bias or not, they are in a position to articulate goals and ground rules for multi-stakeholder processes. In broad strokes, those goals and ground rules might look like this:

- Government can clearly state its principal objective of building up trust-focused collaborations.
- Expectations among major stakeholders then can be brought into alignment. This requires:
 - Active government promotion of the new model and, when necessary, active refereeing. Without government buy-in and monitoring, stakeholders are less likely to soften their self-interests.
 - Buy-in from major stakeholders, including commitments to resist fragmentation.

than is needed to encourage cooperation in the next encounter.

57. COMPLEXITY OF COOPERATION, *supra* note 51, at 22-23.

58. To clarify, high-trust societies are those that exhibit trust across a nation as a whole. Axelrod’s studies suggest that high, localized trust can limit growth in societal trust. In other words, strong kinship relations are trusting, but can lead to insularity that in turns frustrates trust more broadly. This dynamic can explain why nations, which exhibit high trust locally, still struggle economically.

- A willingness on all parts to accept practical, good solutions instead of pursuing idealized, perfect ones, as well as an understanding that the dynamism of the Internet ecosystem means that there always will be those who lag behind the mainstream in adopting agreed-upon goals.
- As to implementation, governments also should clearly state a preference for “principles-based” policies which, to be effective, likewise rely on strong reciprocity.
 - Principle-based policies articulate the ends or outcomes that policymakers want to see the marketplace and civil society produce. They do not prescribe how to achieve those outcomes.
 - Principles should be the outgrowth of collaborative dialogue among stakeholders.
 - They should be achievable, not aspirational. Expectations that are unrealistic undermine trust.
 - Stakeholders are relied upon to pursue the desired outcomes via mutually agreed upon, and enforceable, codes of conduct.⁵⁹
- Given the limits of governmental resources and the complicated fact patterns inherent in Internet-related disputes, the first line of enforcement should be delegated to self-regulatory or co-regulatory bodies. Government enforcement can serve as a backstop for resolving the most critical disputes.
 - If enforcement is to work, stakeholders must avoid conflicts of interest in enforcement actions, and industry should ensure proper funding for self and co-regulatory bodies.
 - Stakeholders must clearly define the boundaries between offerings that are to be treated differently. Misalignment of expectations and distrust flow from poorly crafted, ambiguous boundaries.

To succeed, the model requires a deep commitment of time and energy to the multi-stakeholder process. In a diversifying, competitive, cost-conscious environment, assuring stakeholder engagement and cooperation is no simple task. The skeptic would say that the space is too diverse and too contentious to foster trust and reciprocity.

Universal cooperation is not a realistic objective. By the same token, however, universal compliance with the most painstakingly crafted prescriptive regulations is not a realistic aspiration either. Given

59. See de Vries, *supra* note 35, at 166.

the impossibility of perfect outcomes, then, the question becomes one of creating incentives. Can stakeholders create sufficient incentives for the bulk of commercial entities (rather than the potential cheaters) to participate in multi-stakeholder processes, relegating the cheaters to the “long tail” of the distribution pattern? To enhance the odds of success, the multi-stakeholder process needs to generate:

- *Robust, transparent, and independent enforcement mechanisms that provide parties due process.* It goes without saying that toothless penalties and captured enforcers undermine the public’s faith in any enforcement scheme, whether government-run or otherwise. Transparency and notions of due (and prompt) process provide further assurance that an enforcement mechanism is operating with the greater good in mind.
- *The ability to bring enforcement actions against those who officially have signed up to a code of conduct and, at a minimum, a willingness to call-out possible violations by those who have not.* In a co-regulatory context, this is easy to imagine. The frontline enforcer can refer cases to a governmental entity. In the context where government has no enforcement authority, the frontline enforcer may be limited to shaming bad actors or creating other means of distinguishing good and bad actors (e.g., by establishing logo programs and associated verification mechanisms).
- *Commitment of major stakeholders from industry, civil society, and government.* More specifically they must be fully committed to building, maintaining, and evolving the system.
 - As a practical matter, this also likely means that industry will tax itself in order to fund the undertaking, but also will accept the fact that funding does not provide control.
 - Stakeholders from civil society must be truly independent from commercial stakeholders; yet, civil society may need financial support from commercial stakeholders in order to afford deep engagement in multi-stakeholder initiatives.
 - Government may need to design exemptions from anti-collusion laws. It needs to take part in educating consumers on the mechanisms established by the stakeholder group. Also, it may need to hang the sword of prescriptive regulation over the heads of major industry players in order to prevent government silence from being misinterpreted as disinterest.
 - There must be a shared commitment to resist fragmentation and fractious behavior.

If at the end of the day behavior by outliers negates the efforts of good actors and irreparably undermines consumer trust in the undertaking, stakeholders should understand that regulation or

legislation, at least with respect to outlying behavior, may be in order.

III. PROSPECTS

The main lesson across all of Complexity Theory is that life is inherently unpredictable.⁶⁰ Yes, patterns emerge, but when and how those patterns evolve is impossible to know in advance. This may sound trite. But in the policymaking space, too often, this lesson is ignored. Well-meaning policymakers do attempt to predict the future. And in employing their foresight, they tend to fall back on the past century's practice of (1) defining classes of regulated business activity, and (2) applying prescriptive rules of conduct to them. In the Internet Revolution, this path is especially tenuous.

Complexity Theory not only guides us to an overarching theme for regulating in a rapidly evolving environment—inculcating trust—it also suggests a mechanism. It counsels against the existing, dominant mode of prescriptive regulation. In place of regulation, it suggests pursuing policy objectives by articulating the principles society wants respected and by charging stakeholders with developing the means in a trust-building environment.

Obviously, to buy into the framework, one must have confidence that it can work in practice, and the global experience with multi-stakeholderism is admittedly not all we would like it to be. But there are positive examples,⁶¹ and the current Administration's investment in promoting the model should be seen as an invitation to stakeholders to change the paradigm. And in such cases, the courage to move forward must be based on conviction—a conviction that a new paradigm is needed and that the one offered is more fit for our evolving reality. The alternative is to muddle through, and this is the likely fate of those who see trust-building as either unattainable or undesirable.

60. *See supra* notes 25-34.

61. *See, e.g.*, CENTER FOR COPYRIGHT INFORMATION, www.copyrightinformation.org (last visited Dec. 14, 2011); BROADBAND INTERNET TECHNICAL ADVISORY GROUP, www.bitag.org (last visited Dec. 14, 2011); ANTI-SPYWARE COALITION, www.antispywarecoalition.com (last visited Dec. 14, 2011).

REMARKS AT THE DIGITAL BROADBAND MIGRATION: THE DYNAMICS OF DISRUPTIVE INNOVATION

INTERNET SPECULATIONS

VINT CERF*

Let me start out by warning you that this is an entirely unrehearsed speech and you probably can tell from the beginning that this must be the case. Second, what I hope to do today is provide no answers but provoke a whole lot more debate during this panel discussion.

So, this is where it starts, four nodes at the University of California, Los Angeles, experimenting with packet switching way back in 1969.¹ And then, we get here, more or less. That's a picture 10 years ago of what the inside of the Internet looked like with all the interconnections of many thousands of independent Internet service providers interconnected.² This view is generated automatically by looking at the Internet's global routing tables. Each color is a different operator and of course, as you know, this is all a big collaboration. And then of course this is where we're going. Hopefully over the next several decades we will be able to extend the Internet operations across the solar system. It's not a joke; there is actually stuff going on at JPL where we're looking at trying to build a rich network for space exploration.

Let me just remind you of a couple things: the growth of the number of machines on the Internet used to be easily tracked when most of the machines were visible, but now they're not. A lot of them are hiding behind firewalls. Many devices that are on the Internet are just episodically connected like laptops and desktops and increasingly mobiles. So, this number of nearly 800,000,000 machines is the lower

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1. Vint Cerf, *Internet Speculations*, Silicon Flatirons Conference, Slide 2 (Feb. 2011), available at http://www.4shared.com/document/OGHLRYvH/Flatirons_Feb_2011_Cerf.html.

2. See Map of the Internet, THE INTERNET MAPPING PROJECT (June 28, 1999), <http://www.cheswick.com/ches/map/gallery/isp-ss.gif> (last visited Dec. 11, 2011).

limit of the number of devices that are on the Internet; the real numbers are much bigger.³ The number of visible machines, publicly visible, with domain names and fixed addresses is on the order of 780 million; the number of users on the Internet as of the middle of last year was slightly under two billion; the number of mobiles in operation, not on the Internet necessarily but in operation, exceeds five billion and about 15 to 20 percent of those are Internet enabled.⁴ So, that will be the biggest wave of Internet capable devices in this decade.

Here's where the users are, and I think it's notable that the statistics show that Asia is the largest population of users, even though the penetration rate is only 20 percent.⁵ It used to be that North America was at the top of the list, but we aren't anymore; we will never catch up! We don't intend to reproduce at the rate that would be necessary to have as many people as there are in Asia, so, we should be attentive to the fact that what we do in the United States, as important as it has been in the past, is not necessarily going to be entirely definitive. Many, many users will be from different cultures, speaking different languages, and come from different traditions, and that will influence the Internet's evolution.

One thing that's very important is that we have run out of the original IP version 4 (IPv4) address space and we have officially allocated—or I should say IANA, the Internet Assigned Numbers Authority—has allocated the last of the IPv4 addresses, to the regional Internet Registries.⁶ So it's time to shift into IPv6, where there is a 128 bit address space or 340 trillion, trillion, trillion addresses.⁷ I used to say it was enough for every electron to have its own webpage until somebody pointed out that there were 10 to the 88th electrons in the universe and I was off by 50 orders of magnitude, so I don't say that anymore. It will all be enough to last until after I'm dead; then it's somebody else's problem.

What is important, though, is that we have to implement it. A lot of the software is already there. Most of the laptops and desktops and routers have the software, the servers have the software, but the Internet service providers have not turned it on. They have various excuses for this, one of which is “nobody's asking for it” and you know I would say that the average user doesn't care whether they are running IPv4 or IPv6.

3. See The ISC Domain Survey, INTERNET SYSTEMS CONSORTIUM, <http://www.isc.org/solutions/survey> (last visited Dec. 11, 2011).

4. See *id.*; see also World Internet Users and Population Stats, INTERNET WORLD STATS, <http://www.internetworldstats.com/stats.htm> (last visited Dec. 11, 2011).

5. For more recent statistics, see *id.*

6. Cerf, *supra* note 1, at Slide 8.

7. S. Deering & R. Hinden, *Request for Comments: Internet Protocol Version 6 (IPv6) Specification*, NETWORK WORKING GROUP, Dec. 1998, available at <http://www.faqs.org/rfcs/rfc2460.html>.

They don't even know what that is. What they know is domain names. So that's not a good excuse. We really need to get this implemented and uniformly tested. There's going to be a major demonstration planned on the 8th of June called World Internet IPv6 Day. We at Google and many others are participating in that. It's a complicated problem. The old protocol and the new one are not directly inter-operable. So, you have to run both of them in parallel and eventually there will be a time when you can only get a v6 address and not a v4 address, in which case you won't be able to talk directly to something speaking IPv4.⁸

There are new domain names in the Internet that have been allocated in character sets other than Latin; that is another innovation that has occurred in the last couple of years.⁹ I know that's an eye chart for folks way in the back, but the point here is that we will be seeing top-level domains that are not written in Latin characters, and that is another evolution of the Internet. There are more that have been assigned, and before anybody asks what are these funny little characters here,¹⁰ that's because my machine, when I made the slide, didn't have the Sinhala fonts available to put up so it put them up as little squares. My guess is that you may experience the same thing when you're surfing the Internet and you come to a website that has a font and a character set that you didn't happen to have in your own machines. So we need to be prepared for the kind of variations that will look different than they have in the past.

There are lots and lots of issues associated with security in the Internet,¹¹ and the way people approach using the Internet. Many people are quite concerned, for good reason, whether it's an individual user or businesses or government. There are lots of bad things that can happen on the Internet. You can see a long list of things that have been done or actions that are being taken in order to mitigate at least some of the risk factors and some of the vulnerabilities associated with the Internet. Some people will say "why didn't you put security in when you designed it in the first place, you idiot?" And of course, the answer in part is that the technologies that are in fact used now, or could be used now, were classified then.¹² And although I knew about those and worked with NSA

8. The IPv4 address is 32 bits long and there is no way to express a 128 bit IPv6 address in a field that is only 32 bits in length.

9. Cerf, *supra* note 1, at Slides 9, 10; *see also* John Yunker, *A Whole New Way of Looking at the World (Wide Web)*, GLOBAL BY DESIGN (June 17, 2007), <http://www.globalbydesign.com/blog/2007/06/17/a-whole-new-way-of-looking-at-the-world-wide-web/>.

10. There is a row of little squares on the graphic where non-Latin characters should be. Cerf, *supra* note 1, at Slide 10.

11. *Id.* at Slide 11.

12. Notably, packet mode cryptography was developed by Bolt Beranek and Newman in cooperation with NSA in the mid-1970s.

on a secured version of the Internet, I wasn't allowed to share that information with anyone who didn't have a security clearance, and that meant most of the people at the universities who were participating in the design and implementation and testing of the Internet. But the other thing that I want to point out here is that if we had started out to build a fully secured system, all of the operational aspects of that probably would have inhibited the Internet's spread and use. So, that's not really an excuse, but it's an observation that some things like this don't start out in fully secured mode.

It's fair to say that if we were doing this all over again, certainly if I were involved, I would want to introduce security mechanisms from the get-go in the core of the network, including routers that could verify that the other router they are talking to is what they expect it to be, or users could verify that they are talking to the right website, or users could identify themselves to each other if they chose to do so in some very strong way. So you're seeing lots of mechanisms which I don't think I need to go through point-by-point. Many of you, I'm sure, are very much involved in implementing some of these ideas and may be creating new ones. I would draw your attention to the value and importance of making the Internet a safer place.

We hear a lot about cyber security, I'd like to suggest that we put another meme into the picture which is called "cyber safety." I think a lot of individuals think of the Internet as a place that's not necessarily safe to carry out transactions. That's not a good thing because until people feel comfortable we won't be able to grow e-commerce, we won't be able to use this as an engine for economic growth, and I think that's important to all of us. I'm anticipating that there will be many more devices on the Internet than there have been in the past and I confess to complete surprise when people put up things like refrigerators, and picture frames, and things that look like telephones, but they're really voice over IP gadgets. Many of you have seen this slide before; I am quite amazed at the guy that built an Internet-enabled surfboard. I guess he's Dutch, and he must've been out on the water waiting for the next wave thinking, "oh, if I had a laptop on my surfboard, I could be surfing the Internet while I'm waiting for the next wave," so he put a laptop in the surfboard and Wi-Fi service at the rescue shack, and now he sells this as a product.¹³ So, if you have a desire to get out there and surf the Internet while you're on the water, this is the product for you.

There are things happening in the Internet today, trends that I think are very clear. One of which is an Internet of things, larger numbers of devices that are on the Internet. The second thing is sensor networks that

13. See *Intel's Surfboard*, TRAVELIZMO, <http://www.travelizmo.com/archives/000325.html> (last visited Dec. 11, 2011).

are increasingly becoming part of the Internet community of devices.¹⁴ I have a sensor net at home.¹⁵ Every room in the house that has a sensor that is picking up temperature, humidity, and light levels every five minutes, and that data is being stored in a server down in the basement. This is an IPv6, radio-based network. Each device is a sensor, and it's also a store-and-forward relay. So this is a mesh network which maintains itself. It is a commercial product made by a company called Arch Rock, which was acquired recently by Cisco. So the system has been remarkably robust. Each sensor runs on batteries, and for the hell of it, I ran the sensors for over a year on two little AA cells until they got down to 2.4 V at which point they finally pooped out. Certainly longer than the guys who built it expected it would continue to work.

One of the rooms in the house is a wine cellar, and as many of you may know, I'm a big fan of accumulating and consuming wines. I don't buy them to look at; I buy them to drink. So I'm very concerned that they stay at 60°F or lower. Humidity is another issue, it has to stay above about 30 or 40% humidity so the corks don't dry out. Every 5 minutes, the sampling takes place and if the temperature goes up above 60°F, I get an SMS on my mobile. This happened to me when I was walking into Argonne National Laboratory last year for a three-day visit. Just as I was walking into the building, the mobile goes off: it's the wine cellar calling, "You've just broken through the 60°F barrier." Every 5 minutes for the next three days I got a little message saying, "Your wine is warming up." Unfortunately, my wife was away on a two-week vacation and so she was not home to reset the cooling system. So I called the Arch Rock guys and said "do you make remote actuators" and they said "yes." So this sounds like a weekend project. It's obvious, though, that I'm going to need very strong authentication software, or the 15-year-old nextdoor is going to reprogram the house while I'm away. Again, security is important.

I thought, "You know, there's more that you can infer from looking at sensor net data." This is a privacy issue. If you can observe sensor data from every room in the house; if you can observe the lights in every room of the house every so often; if you can get information about the temperature in the garage, you can tell when the car has been driven because the temperature in the garage goes up in a noticeable way. Observing this type of data, you could tell a lot about the diurnal patterns of the people that live in a house. I think the emphasis here should be on the inferential nature of privacy; that information that looks like it

14. Gregory T. Huang, *Casting the Wireless Sensor Net*, TECHNOLOGY REVIEW, July/Aug. 2003, at 50, available at <http://www.cens.ucla.edu/News/TechReview.pdf>.

15. This graphic depicts the Cerf residential sensor network. Cerf, *supra* note 1, at Slide 13.

wouldn't be specifically of concern can turn out to be more sensitive because of what you can infer from it.

I thought about the light level thing, and I thought, "You know, I could actually tell if somebody's gone into the wine cellar and turned on the lights while I'm away." And I thought some more about that and somebody else in the discussions said, "Yeah, but you don't know what they did in there." So, I thought, "Okay maybe I should put an RFID chip on each bottle, and then I can do an instantaneous inventory, and that will tell me if any wine has left the wine cellar without my permission." This got debugged by another friend who said, "Yeah, but you can go into the wine cellar and drink the wine and leave the bottle!" So, we're going to have to put sensors in the cork, and as long as we're going to do that, we might as well sample the esters to see if the wine is ready to drink. So, before you open the bottle, you interrogate the cork. If that's the bottle that got up to 90°F when the cooling system failed, that's the bottle that you give to somebody who doesn't know the difference! It's a very practical thing to do.

These sensor networks are going to be part of our normal environment. I think those LEED buildings, the ones that are low-energy rated, will probably be heavily instrumented. They will know a lot about their internal conditions. They will know about whether people are present. That kind of information will be very important to us to improve our use of energy.

Now I want to switch gears for a minute. This is very speculative, and I would like very much to ask, if we can, during the panel discussion, explore some of this. Up until now, this is the kind of infrastructure that we have seen evolve around the Internet, and it's pretty clear that there are quite a wide range of different ways in which people have provided broadband Internet access.¹⁶ This is a picture of New York City in 1889—it tells you something about the large number of telephone companies that were competing with each other, not necessarily interconnected either.¹⁷ We have this history of infrastructure which is not necessarily coherent, and we're no better off now than we were 100 some odd years ago.

There is a variety of different ways in which broadband access can be provided, but an awful lot of the business models have tended to rely very heavily on more than just paying for the cost of access.¹⁸ So, you see combined kinds of business models. In the case of local exchange carriers, they started off as telephone companies, and the business that they were in was telephone voice calls that extended into facsimile

16. Cerf, *supra* note 1, at Slide 15.

17. *Id.* at Slide 16.

18. *Id.* at Slide 17.

machines, and now it has expanded into DSL, and in some cases, fiber and Internet access. But the business models have been very combined, and of course recently wireless services have turned out to be a major component of the business models supporting the local exchange carriers. Cable carriers started out being television delivery businesses; they would either generate or, more typically, acquire access to content and then make it available to large numbers of subscribers. They would package this up into various groups of channels with various kinds of content and charge for that. So, the recovery of the cost of building the infrastructure was based on the product, mainly the entertainment, and not necessarily on simply recovering the cost of installing and operating the infrastructure.

The more recent extension of those companies into Internet access once again raises questions about the business model, and whether or not they could make a business out of just supplying Internet service, or whether you need to have all of the other components of revenue in order to support the enterprise. There are lots of wireless service providers, and they typically operate on a rather small physical range, and most of the time their models are based solely on recovering costs of access to the Internet.¹⁹ So, they are much more affected by, for example, the cost of access to broadband service by wireline providers whose reach they extend by providing wireless access. Satellite communications started out, of course, as broadcast television but after a while also evolved from either point-to-point dedicated links or broadcast television, into Internet-based services as well.

But, the real economics here, about which I know only a little (I'm just an engineer, I am not an economist, and I'm not even a very good business guy), are complicated and you really have to pick apart all the various pieces of the enterprise to understand capital, operating expense, and requirements for interconnection. So, one of the experiments that Google is engaged in right now is figuring out whether or not it's possible to build a broadband infrastructure which will support itself solely on the basis of recovering the cost of capital and operation, and not necessarily requiring any additional revenues from value added services. Whether or not that works, we don't know. Our general sense is that it's worth finding out, so there's an effort going to build broadband infrastructure. The first pass at that is in the Stanford University area, around where the professors live, where gigabit fibers are intended to be installed and used to provide services to them.²⁰ So part of the panel

19. *Id.* at Slide 18.

20. See William Quade, *Imran Nazar's JavaScript Based Game Boy Emulator*, ZLSTUDIOS (Nov. 10, 2010), <http://zlstudios.net/2010/11/imran-nazars-javascript-based-game-boy-emulator/>.

discussion might be about that.

The original model of the Internet was that we would supply everyone with the details of how to build a piece of it and then it was your job not only to build a piece but then find somebody to connect to. The Internet actually grew in an organic way as a consequence of that. It was very much intentionally designed that way. It wasn't top-down control, there was no single authority that determined who could connect and who could not, who could build and who could not—it was completely open and the consequence of that was a great many participants showed up.

Some of you will recall that prior to broadband Internet access, there was only dial-up access. I can recall in the 1990s, early parts of the 1990s, there were on the order of 8,000 dial up Internet service providers. This had a very interesting effect because you could change Internet service provider by dialing a different number and, so, switching was really easy. In the current days when you're expecting to get broadband access, switching is harder because it often requires switching of physical infrastructure, installation of new equipment, maybe a truck to come out and reconfigure things. So there is a switching cost, which is substantial compared to what it once was—not to suggest that anyone would ever go back to dial-up right now. I've never seen anybody back away from higher bandwidth after they've had access to it.

Now, I wonder, I mentioned the speculative question: can you build the infrastructure to pay for itself, and we're about to try and find that out at Google. I am going to channel Bob Frankston for a minute.²¹ He has often speculated that if we could buy our own pieces of Internet as users, and then hook it up to the rest of the world, that maybe we could afford to simply install the fiber, and own it and use it, in whatever capacity it can provide. So maybe one question is whether that is, in fact, a feasible thing to do and I don't know the answer to that. It probably would be hard for a community to do trenching unless it's at the time the housing is being built in the first place. But, it's conceivable if there are poles available, that you could rent poles, and then there are arguments over who gets to charge what for the poles.

We had an experience at Google a few years ago when we were invited to provide wireless Internet service in the city of San Francisco.²² We partnered with Earthlink and worked out what we thought was a

21. Bob Frankston is the co-inventor of VisiCalc (the first spreadsheet application for personal computers).

22. Verne Kopytoff & Ryan Kim, *Google Offers S.F. Wi-Fi –For Free/ Company's Bid is One of Many in Response to Mayor's Call for Universal Online Access*, SFGATE.COM (Oct. 1, 2005), http://articles.sfgate.com/2005-10-01/news/17393876_1_wi-fi-network-free-wireless-internet-access-google.

reasonable model: we were going to provide a free service with a certain amount of capacity, and Earthlink was going to augment that with a service that had some charges associated with it. What I discovered is that after we “won,” so to speak, all we had “won” was the right to negotiate with over 29 different jurisdictions over how much they were going to charge us for access to the light poles on which the wireless capability would be placed, and in the end I think it didn’t work out. I don’t believe we built that. We did build a wireless system in Mountain View as a test case, mostly to figure out what we were getting into. Google is very strong on data to make decisions, not intuition. We built the wireless system in Mountain View just to see what it would cost, and what problems would arise, but we didn’t get to do the one in San Francisco.

The other thing which is an obvious possibility, which has been tried, is municipal networks. Those of you who are interested in the *Sturm und Drang* of legal rights and things like that would be interested to know that some competing carriers have objected to municipal networks building their own systems, and have even attempted to have legislation passed that would inhibit a municipality from building its own net.²³ The argument, as I understood it, goes something like, “Gee, a municipality is a governmental agency, it’s the government competing with the private sector.” I always wondered about that argument because it seemed to me that what would likely happen is that the citizens would agree to tax themselves for the capital cost of installing this wireless, or possibly wired, system. Since they agreed to do that, they would probably contract with some private sector entity to go build and operate it. So, in a sense, it would still be the private sector, it just might not be a local exchange carrier that would get the business. So maybe that’s why they objected to the possibility of someone else getting the business than themselves. I don’t know if I’ve offended anyone in the room, but if I have, it was intentional.

So, we have models where this has worked out well, and we have models where this has not worked out well. One of the interesting questions is to understand more deeply, why not? Why has this not worked? And I think it would be important for us, as we look at policy, to try and understand what the dynamics are here, not just the politics but more the economics and physics of it all. There’s a long list of policy considerations that could affect how the Internet evolves.²⁴ This is clearly not a complete list, but it’s intended once again to suggest that during the panel discussions that we might take a moment to consider some of these

23. Anthony Sciarra, *Municipal Broadband: The Rush to Legislate*, 17 ALB. L.J. SCI. & TECH. 233 (2007).

24. Cerf, *supra* note 1, at Slide 19.

things.

One of them, of course, we have been talking about is broadband infrastructure. Another issue has gone by the term “net neutrality,” which has become such a distorted debate that the term almost doesn’t mean anything anymore. But the point, at least as I see it, has been to assure that consumers are not unduly constrained in their ability to reach anywhere on the Internet to get a product or a service that they are interested in. And, that business deals that are advanced by the provider of the underlying broadband access should not inhibit the consumer from making that choice. There are all kinds of other arguments having to do with what the consumer does with the access to the Internet, whether it overloads the network. I fully accept the argument that you need to manage the resources of the network to provide fair access to all the consumers, but, at the same time, I don’t think there should be discrimination with regard to where you get to go, even if there’s some discrimination as to how much you get to use and when.

I think there are also some major issues having to do with safe harbor, and we’re seeing increasing problems where governments will say, “Well I don’t want this provider of service to allow any of the traffic to leave my geographical authority.” So, in Europe you might be concerned that you don’t want any data that your citizens are generating to show up in any country other than the country of residence. Often, there have been safe harbor rules that allow actors not in the country to satisfy the requirement even though they have an international footprint. Here, I think we should pay attention to that because that’s an important facilitator of international commerce. Again, I’m not going to go through all of these things.

I do want to emphasize this notion of “permissionless innovation.” In the Internet environment, the applications on the Internet have grown very organically. Part of the reason for this is that the Internet wasn’t designed to do anything in particular. When I teach engineering courses, one of the things that I emphasize is that if you design something too carefully to be too precisely attuned to a particular application, it may not work for anything else. The Internet on the other hand wasn’t designed to do anything except move packets from point A to point B with some probability greater than zero and that’s all that we ask and the rest of it is what happens at the top, at the edges. So, I think this has led to what we have been calling “permissionless innovation” because if you want to try something out, you just do it. The Yahoo! guys and the Google guys and the Skype guys didn’t ask permission to build their products and services; they just put them up on the Internet and let people come and use them. If they were successful, more people would use them; and, if they weren’t, we would never hear of them at all.

Let me skip down to multi-lateral legal frameworks. There are many

abuses that occur on the Internet, some of them are tort-like in nature, some of them are criminal. Some of them are socially abusive and, in many cases, we look at these as a society and say these are not good things. The problem is that we don't have the same legal frameworks from country to country, and even from jurisdiction to jurisdiction, about these things. And until we begin to address common views of what is socially acceptable and what is not, it's going to be very hard to maintain any kind of international, let me use the word, "discipline," in a network environment. Because if you are operating in country A, and having a negative impact on someone in country B, unless there is some reciprocity between the legal systems, there may be no way to reach the party who is causing harm. Once again, it's going to take some serious thinking and multilateral discussion. And we may end up at the beginning, with maybe small sets of countries agreeing on things, or maybe a broad set of countries on not very many things. But unless we begin, we won't be able to deal with some of the social and economic side effects of negative things that happen on the Internet.

On a more constructive side, we also could agree to the meaning of certain things that would enhance electronic commerce, for example: strong authentication mechanisms, the procedures by which certificates are granted for identification, the particular technologies that are used, so that you can strongly authenticate. I want to emphasize that this is not an argument in favor of losing anonymity on the Internet. A lot of people will argue, very persuasively, that anonymity leads to bad behavior, and therefore, we should do away with it, and you should be forcibly required to identify yourself when you are on the Internet. I resist this. I do think we should have really good tools for identifying ourselves when we wish to be identified in order to carry out a transaction. But, we should have the freedom to say, "No, I don't want to identify myself." The other party, in this case, could say, "Then this conversation is over," and that's perfectly okay. So, strong tools, but not necessarily forcibly applied, strike me as being important. And that is as much as I am going to say this morning. I am ten minutes over time, so I am going to stop here. I hope I have stimulated some thinking.

REMARKS AT THE DIGITAL BROADBAND MIGRATION: THE DYNAMICS OF DISRUPTIVE INNOVATION

LAWRENCE E. STRICKLING*

Last year Dale Hatfield and I agreed that I would come here without a prepared text. Instead, I would sit and listen to the conference and then I would stay up all night to prepare remarks to give at the end of the conference. I found it a challenging but stimulating exercise—at least enough so to agree to reprise it again this year.

But before I turn to this year's discussion, I'd like to update everyone on our progress since last year's conference.

Last year I talked about defining the role of the U.S. government in Internet policy to preserve and enhance the trust of actors on the Internet.¹ And that in carrying out that role, the government should act less as a heavy-handed regulator and more as a facilitator or convener to bring all stakeholders together. This is the multi-stakeholder process you've heard discussed here the last two days.

In the past year, we at the National Telecommunications and Information Administration (NTIA) have pursued several actions to implement these concepts in a meaningful way. With the leadership of Secretary Gary Locke and the participation of other Department of Commerce bureaus, we convened an Internet Policy Task Force to take a hard look at four key areas of Internet policy—privacy, cybersecurity, free flow of information, and online copyright protection.

We have made the most progress in the area of privacy. Last December, after convening a workshop and soliciting comments, we released a green paper containing recommendations on establishing stronger privacy protections in the area of online commercial data.² Our

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1. Lawrence Strickling, *Remarks at the Digital Broadband Migration: Examining the Internet's Ecosystem*, 9 J. ON TELECOMM. & HIGH TECH. L. 255 (2011).

2. DEP'T OF COMMERCE INTERNET POLICY TASK FORCE, CYBERSECURITY,

starting point for our recommendations was that strong privacy protection is necessary to preserve and build the trust of users of the Internet and is indispensable to the continued growth and innovation on the Internet.

Our recommendations also rely heavily on the notion of multi-stakeholderism. We propose that baseline privacy protections be adopted—in legislation or otherwise—but that we then convene stakeholders to develop enforceable, codes of conduct to implement the baseline protections. This process allows us the speed to respond quickly to new issues of consumer privacy and the flexibility to have new protections crafted in the most efficient manner.

We received nearly one hundred sets of comments on these recommendations in January and hope to issue a final policy pronouncement on behalf of the Administration by late spring or early summer.

A second major task for us this past year has been our focus on improving multi-stakeholder organizations, in particular the Internet Corporation of Assigned Names and Numbers (ICANN), the organization responsible for coordinating the Internet's domain name system.

I believe strongly that in order for the concept of multi-stakeholderism to be accepted by the global community, the reality has to meet the vision. That has not always been the case with ICANN. For the past year, I have served with representatives from around the world on a team to review the accountability and transparency of ICANN. The team issued a set of recommendations at the end of 2010 identifying what ICANN needed to do to bring its actual accountability and transparency practices up to the level the community expects.³ The ICANN Board must act on these recommendations by June of this year and we will continue to monitor ICANN closely to ensure it operates to develop consensus in an accountable and transparent manner.

That brief summary now sets the stage for my reactions to this year's conference and its theme of the dynamics of disruptive innovation.

I found yesterday morning's discussion of the tension between disruption and stability most interesting. Much of the discussion was about how technological change disrupts the business plans of incumbents—all fine and good for the most part and not obviously

INNOVATION AND THE INTERNET ECONOMY (2011), *available at* http://www.nist.gov/itl/upload/Cybersecurity_Green-Paper_FinalVersion.pdf.

3. INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS [hereinafter ICANN], FINAL RECOMMENDATIONS OF THE ACCOUNTABILITY AND TRANSPARENCY REVIEW TEAM (2010), *available at* <http://www.icann.org/en/reviews/affirmation/atrt-final-recommendations-31dec10-en.pdf>.

threatening to the economic sustainability of the Internet overall.

But Michael Powell sounded a more ominous note with implications for the political sustainability of the Internet when he talked of society's need for stability and lack of disruption serving to oppose the impetus for change. That discussion helped crystallize for me some of my own thinking—that one of the greatest challenges facing the Internet in the next five years is political sustainability, which of course forces us to confront the question of what is the collective role of nation-states with respect to Internet governance.

Can governments collectively operate within the paradigm of a multi-stakeholder environment and be satisfied that their interests are being adequately addressed? If not, the alternative is not a happy one in my mind. There are forces at play which would hand over governance of the Internet to a body of governments—perhaps the International Telecommunication Union. But many people believe a governance structure for the Internet managed and controlled by nation-states would jeopardize the growth and innovation we have enjoyed these past years. They fear the imposition of heavy-handed and economically misguided regulation and the loss of flexibility the current system allows today.

Take standards-setting. As Susan Crawford said yesterday, there are no purely technical standards—all standards are political. Do we really want to replace the IETF—which Level 3's Jack Waters just held out as a success story—with committees of government bureaucrats to settle these issues?

As an example of what might happen, look at the World Radio Conference, which will convene next year in Geneva. If you want to get something on the agenda for next year's meeting, it's already too late. In fact, if you want to get something on the agenda for 2016, you need to submit it now. Five years to be heard. How could such a system possibly apply to the Internet without squeezing all the innovation, speed, and flexibility out of the process?

I suggest today a two-pronged approach to respond to the challenge of engaging governments in multi-stakeholder governance institutions.

First, we need to work to convince governments to accept the global Internet as it is and specifically the multi-stakeholder organizations such as ICANN that provide governance today.

Within the U.S. government, the Office of Science Technology Policy (OSTP), the National Economic Council (NEC), NTIA and other agencies have been working on a proposed set of Internet policy-making principles for which we will be seeking buy-in from other governments.⁴

4. See *Statement on the OECD's Announcement of Principles for Internet Policy-Making at its Meeting on the Internet Economy*, U.S. DEP'T OF STATE (June 29, 2011), <http://www.ntia.doc.gov/press-release/2011/statement-oecd-announcement-principles->

This audience would find the proposals supportive of the innovative, global, multi-stakeholder nature of the Internet environment. We seek, among other principles:

- To promote and protect the global free flow of information;
- To promote an open Internet;
- To create multi-stakeholder policy development processes; and
- To foster voluntarily developed codes of conduct.

We are offering these draft principles at a high-level meeting of the OECD on the Internet economy to be held in Paris at the end of June.⁵ We hope to work with OECD countries to develop consensus on a set of principles and from there, to expand the discussion to other nations around the world.

So that's the first prong of the response.

The second prong relates to the responsibility of existing multi-stakeholder institutions to encourage nation-states to participate more fully in their processes. Organizations such as ICANN need to do more to bring governments into the multi-stakeholder tent.

One necessary step, as I already mentioned, is for the organizations to ensure that the accountability and transparency of their day-to-day operations match the expectations of the global Internet community.

But beyond that, these organizations have to focus on the specific concerns of governments and provide them a meaningful opportunity to participate and be heard.

This will not be easy and will force multi-stakeholder institutions to confront issues they have not satisfactorily managed in the past. As I have stated, we want to avoid the complete subjugation of the Internet to national sovereignty, but it is clear that even if we are successful with the first prong of our strategy, we will not totally replace the individual interests of governments with a transnational approach based entirely on a generically-defined "global Internet community."

It is important for organizations such as ICANN to win endorsement of the multi-stakeholder model from governments. To do so, such an organization needs to ask, as a consensus-based organization, how it will deal with issues where the collective consensus view of governments is to take or not take a specific action. This will require a case-by-case

internet-policy-making-its-meeting-intern.

5. See *OECD High Level Meeting Provides Framework to Guide Internet-related Policy-making*, U.S. DEP'T OF STATE (June 30, 2011), <http://www.state.gov/r/pa/prs/ps/2011/06/167448.htm>. See also *OECD Council Recommendation on Principles for Internet Policy Making*, ORGANISATION FOR ECONOMIC CO-OPERATION (Dec. 13, 2011), <http://www.oecd.org/dataoecd/11/58/49258588.pdf>.

review for which there are no simple answers.

Let me provide a specific example which is very current—the expansion of top-level domains. Top-level domains, as you know, include .com and .org. ICANN has been considering opening up the top-level domain space to all comers.⁶ Financially, this will be very rewarding to ICANN since it plans to charge an application fee of \$185,000 for each proposed top-level domain name.

Governments have raised a number of concerns since 2007 about the proposed expansion through the Governmental Advisory Committee of ICANN. But until a meeting scheduled for later this month, the ICANN Board has not sat down with the GAC, as it is called, to resolve these differences.

It is widely accepted, including by ICANN, that governments, representing the public interest, have legitimate concerns about certain possible strings such as .nazi. But the question is how to handle government objections within the multi-stakeholder model. If we don't, individual governments may start blocking top-level domains based on their parochial objections which in the longer term may provide ammunition to those who would like to replace the multi-stakeholder model with one that puts governments in charge.

The key to a constructive engagement on these difficult questions is for the ICANN Board to take seriously its role of acting in the public interest by assessing consensus of all relevant stakeholders, including governments.

There is a lot at stake.

First, one of the main goals of ICANN is to preserve a single, global interoperable root. If governments do not feel that ICANN offers a meaningful opportunity for their concerns to be addressed, they likely will start blocking domain names they find objectionable. If blocking becomes the norm, the splintering of the single root is probably inevitable which will have impacts on Internet security as well as the free flow of information. We are very concerned that implementing an expansion of top-level domains in a manner that not only expects but forces governments to block domain names in their countries would present an explicit abandonment by ICANN of the vision of the “single Internet” and that, we submit, is not a good outcome.

Second, from the beginning of ICANN, other governments have criticized the unique role of the United States with respect to the root.⁷ Today, ICANN sends root change requests to NTIA. We verify that

6. Universal Acceptance of All Top-Level Domains, ICANN, <http://www.icann.org/en/topics/TLD-acceptance/> (last visited Dec. 14, 2011).

7. See Kathleen E. Fuller, *ICANN: The Debate Over Governing the Internet*, 2001 DUKE L. & TECH. REV. 2 (2001).

ICANN has followed the agreed processes and procedures and pass the request on to VeriSign, which executes the change. Even though we have never yet rejected a change, there are concerns we could act on our own if we decided to do so.

Just as we addressed this perception of U.S. control over the Internet in the Affirmation of Commitments in 2009,⁸ we see the debate over top level domains as another opportunity to internationalize root zone changes and to do so within the four corners of the ICANN structure.

So how can all of this be accomplished?

We have proposed that the ICANN Board use the already-existing GAC process to allow governments collectively to submit objections to individual applications to top-level domains.⁹ The GAC already operates on a consensus basis. If the GAC reaches a consensus view to object to a particular application, that view would be submitted to the Board.

The Board, in its role to determine if there is consensus support for a given application (as it is expected to do for all matters coming before it), would have little choice but to reject the application.

The benefits of this proposal are numerous:

- It affords governments a meaningful opportunity to raise concerns within the multi-stakeholder model of ICANN and reduces some of the pressure to create a new governance model limited to governments.
- It reduces the likelihood of countries taking unilateral action to block individual domain names and fracturing the root. While the proposal does not guarantee there will be no blocking, it avoids legitimizing it and one would hope that, if a government raises an objection that GAC does not agree with, the government, having failed in its effort to secure a consensus objection, would go ahead and not block the new name once it is added to the root.
- It also provides for greater internationalization of the root and provides for collective government action instead of the perceived unilateral U.S. government control.

This is just one example of the types of challenges multi-stakeholder organizations will face from governments. How well these

8. ICANN, AFFIRMATION OF COMMITMENTS BY THE UNITED STATES DEPARTMENT OF COMMERCE AND THE INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS (2009), *available at* <http://www.icann.org/en/documents/affirmation-of-commitments-30sep09-en.htm>.

9. ICANN, PROCEDURES FOR REVIEW OF SENSITIVE STRINGS (2011), *available at* <http://www.icann.org/en/topics/new-gtlds/gac-scorecard-sorted-14mar11-en.pdf>.

organizations respond to these challenges will have a major impact on the continued growth and development of the Internet. We should all hope they choose wisely.

Thank you.

WHY THE FEDERAL GOVERNMENT SHOULD HAVE A PRIVACY POLICY OFFICE

PETER SWIRE*

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INTRODUCTION

This article supports the creation of a Privacy Policy Office in the executive branch, as called for in the recent Department of Commerce Green Paper, “Commercial Data Privacy and Innovation in the Internet Economy: A Dynamic Policy Framework” (hereinafter referred to as the “Green Paper”).¹

The chief criticism of this proposal is that the office would weaken privacy protection. In one vivid turn of phrase, Jeff Chester of the Center for Digital Democracy said: “Having the Commerce Department play a role in protecting privacy will enable the data collection foxes to run the consumer privacy henhouse.”² Mr. Chester and other privacy advocates essentially argue that having the Commerce Department play a role in privacy policy will dilute the effectiveness of the privacy efforts of the

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1. See U.S. DEP’T OF COMMERCE, COMMERCIAL DATA PRIVACY AND INNOVATION IN THE INTERNET ECONOMY: A DYNAMIC POLICY FRAMEWORK (2010) [hereinafter GREEN PAPER], available at www.ntia.doc.gov/reports/2010/IPTF_Privacy_GreenPaper_12162010.pdf.

2. Juliana Gruenwald, *Privacy Groups Critical of Commerce Privacy Report*, NAT’L J. TECH DAILY DOSE (Dec. 16, 2010), <http://techdailydose.nationaljournal.com/2010/12/privacy-groups-critical-of-com.php>.

Federal Trade Commission (“FTC”).

I disagree. My arguments support three conclusions: (1) the office would provide important benefits to complement what the FTC does. As part of the executive branch, the office would make distinctive contributions to building privacy policy into the development and implementation of U.S. government positions for domestic and international policy. Relatedly, the office would be able to draw on the perspectives and expertise of other federal agencies far more effectively than can an independent agency such as the FTC. (2) The likely outcome with an office would be better protection of privacy than would occur without the office. (3) The likely outcome with an office would be better achievement of other policy goals than would occur without the office.

This article also considers whether the office should be placed in the Department of Commerce, as the Green Paper recommends, or else in the Executive Office of the President, which housed the office of the Chief Counselor for Privacy under President Clinton. I conclude that the important thing is to ensure an ongoing privacy policy capability in the executive branch, while a good case can be made for housing the office either in the Commerce Department or the Executive Office of the President.

I. BACKGROUND ON PRIVACY AND THE DEPARTMENT OF COMMERCE

Much as is occurring in the active current debates about privacy, the FTC and Commerce Department played complementary roles in the mid-to late-1990s in developing privacy policy. In the 1990s at the FTC, privacy initiatives were pushed by Chairman Robert Pitofsky, Commissioners Mozelle Thompson and Christine Varney, and Director of the Consumer Protection Bureau Jodie Bernstein (along with her dedicated staff, led by David Medine). Simultaneously at the Commerce Department, Barbara Wellbery and Becky Burr played important roles, as did Administrator of the National Telecommunications and Information Administration Larry Irving, General Counsel Andy Pincus, Undersecretary for the International Trade Administration David Aaron, and Secretary William Daley. The history of the FTC’s involvement in privacy in the 1990s has been well discussed in work by Kenneth Bamberger and Deirdre Mulligan.³

3. See Kenneth A. Bamberger & Deirdre K. Mulligan, *Privacy on the Books and on the Ground*, 63 STAN. L. REV. 247 (2011); Kenneth A. Bamberger & Deirdre R. Mulligan, *New Governance, Chief Privacy Officers, and the Corporate Management of Information Privacy in the United States: An Initial Inquiry*, 33 LAW & POL’Y 477, 478-79 (2011). I have written previously on the privacy regulation history of the late 1990’s. Peter P. Swire, *Trustwrap: The Importance of Legal Rules to Internet Privacy and Internet Commerce*, 54 HASTINGS L.J. 847 (2003).

The Department of Commerce's vital work in the mid- to late-1990s has been less fully discussed.⁴ In 1997, Secretary Daley personally hosted a major conference and report on "Privacy and Self-Regulation in the Information Age."⁵ That conference engaged many of the persons and developed many of the concepts that shaped U.S. privacy policy in the following years.⁶ The Department then led the complex and ongoing negotiations with the European Union ("E.U.") about how to reconcile the E.U. Data Protection Directive and U.S. law, culminating in the Safe Harbor agreement in 2000, which is still in effect today.⁷ The Department, including its International Trade Administration, was actively involved on topics such as e-commerce, international trade, and how privacy fits into broader business practices.

In the summer of 1998, Vice President Al Gore announced that a privacy policy position would be created in the U.S. Office of Management and Budget ("OMB"). As discussed further below, I entered the role of Chief Counselor for Privacy in early 1999, and worked closely with the Department of Commerce, the FTC, and other agencies until early 2001. Under President George W. Bush, the Commerce Department administered the Safe Harbor program, but did not play as visible a policy role on privacy as it did under the Clinton Administration.

Under President Obama, Secretary Gary Locke created the Internet Policy Task Force, which in December 2010 published the Green Paper entitled "Commercial Data Privacy and Innovation in the Internet Economy: A Dynamic Policy Framework."⁸ The Green Paper states:

Recommendation #4: Using existing resources, the Commerce Department should establish a Privacy Policy Office (PPO) to serve as a center of commercial data privacy policy expertise. The proposed PPO would have the authority to convene multi-stakeholder discussions of commercial data privacy implementation models, best practices, codes of conduct, and other areas that would benefit from

4. One reason may be the untimely death in 2003 of Barbara Wellbery, who worked tirelessly to address the issues of U.S. and E.U. relations in connection with the European Union Data Protection Directive and who was instrumental to creation of the Safe Harbor privacy program that is now administered by the Department of Commerce.

5. Larry Irving, *Introduction* to U.S. DEP'T OF COMMERCE, PRIVACY AND SELF-REGULATION IN THE INFORMATION AGE, (1997), available at <http://www.ntia.doc.gov/page/privacy-report-introduction>.

6. The conference invitation pushed me to write my first article specifically on privacy issues: Peter P. Swire, *Markets, Self-regulation, and Government Enforcement in the Protection of Personal Information*, in U.S. DEP'T OF COMMERCE, PRIVACY AND SELF-REGULATION IN THE INFORMATION AGE ch. 1 (1997), available at <http://www.ntia.doc.gov/reports/privacy/selfreg1.htm>.

7. See Safe Harbor, EXPORT.GOV, <http://www.export.gov/safeharbor> (last visited Dec. 1, 2011).

8. See GREEN PAPER, *supra* note 1.

bringing stakeholders together; and it would work in concert with the Executive Office of the President as the Administration's lead on international outreach for commercial data privacy policy. The PPO would be a peer of other Administration offices and components that have data privacy responsibilities; but, because the PPO would focus solely on commercial data privacy, its functions would not overlap with existing Administration offices. Nor would the PPO have any enforcement authority.⁹

For reasons set forth below, I generally support this recommendation. I would place greater emphasis on certain functions the office can play, especially as an ongoing source of institutional expertise on privacy and a facilitator of inter-agency clearance of privacy-related issues.

II. A COMPLEMENTARY ROLE FOR A PRIVACY OFFICE IN COMMERCE: THE IMPORTANCE OF CLEARANCE AND INTERNATIONAL PRIVACY ISSUES

To assess the potential usefulness of the PPO, it helps to first understand some important roles played by the FTC in privacy protection:

1. **Enforcement.** The FTC has the power to bring enforcement actions against "unfair and deceptive trade practices," and has negotiated consent decrees on privacy with both large and small companies.¹⁰
2. **Rulemaking.** In specific areas, such as children's online privacy and anti-spam measures, the FTC has explicit authority to issue rules under the Administrative Procedure Act.¹¹ More broadly, the FTC could write rules under the more burdensome procedures created by the Magnuson-Moss Act,¹² but it has not chosen to do so on privacy.
3. **Convener.** The FTC has brought together stakeholders in a variety of ways to discuss emerging online privacy issues, and in some instances, catalyze self-regulatory codes of conduct for industry.¹³
4. **Institutional expertise.** Leading members of today's FTC efforts were also active during the privacy debates of the 1990s. The conti-

9. *Id.* at 45.

10. See OFFICE OF GEN. COUNSEL, FED. TRADE COMM'N, A BRIEF OVERVIEW OF THE FEDERAL TRADE COMMISSION'S INVESTIGATIVE AND LAW ENFORCEMENT AUTHORITY (2008), available at <http://www.ftc.gov/ogc/brfovrvw.shtm>.

11. See 15 U.S.C. § 6502(c) (2006); see also 15 U.S.C. § 7706(a) (2006).

12. 15 U.S.C. § 2301 *et seq.* (2006).

13. See FED. TRADE COMM'N, INDIVIDUAL REFERENCE SERVICES REPORT TO CONGRESS (1997), available at www.ftc.gov/os/1997/12/irsappe.pdf; see also NETWORK ADVERTISING INITIATIVE, SELF-REGULATORY CODE OF CONDUCT (2008) available at http://www.networkadvertising.org/networks/2008%20NAI%20Principles_final%20for%20WebSite.pdf.

nuity of FTC staff has contributed to the Commission's institutional expertise on privacy issues.

5. **Bully pulpit.** Top FTC officials and staff direct the attention of companies toward emerging privacy issues.

The Commerce Department has at least two distinctive roles that complement this list of FTC privacy functions: clearance and ability to speak internationally for the administration.

The role of "clearance" in the federal government is particularly important, yet often little understood. In a document prepared in 2000 for publication in the *Stanford Law Review*, but not actually published, I went into some detail on the subject.¹⁴ To ensure a unified administration position for congressional testimony, executive orders, and many other documents, drafts of documents are circulated among the various agencies and components of the Executive Office of the President. Once comments are received, discussions are sometimes needed to resolve differences of opinion, with appeal to more senior officials if differences are not resolved at lower levels. In addition to these structured clearance procedures, agency experts on an issue such as privacy often get engaged earlier in the policy planning process, in a variety of working groups and less-formal methods of sharing expertise and views.

In my experience, an independent agency, such as the FTC, has a sharply limited ability to participate in the administration's clearance process. On some occasions, a draft document may be shared with the FTC, often early in a policy process, for whatever input the commission may wish to offer. The decision making, however, is done by persons in the executive branch, notably the Executive Office of the President and cabinet agencies such as the Department of Commerce. There are important and long-standing reasons for this separation between independent and executive agencies—the separation avoids the appearance of political pressure on independent agencies. Separation is especially important for enforcement decisions—the FTC has true independence on what enforcement actions it brings, but the corollary is that the FTC is not "inside" the administration when it comes to creating administration policy. A variety of rules exist to limit the interaction of independent agencies and the executive branch; new White House officials, for instance, are briefed by counsel to exercise great caution in their interaction with independent agencies.

As an example of the constructive role in clearance played by the Department of Commerce, consider testimony in 2010 on the controver-

14. Peter P. Swire, *The Administration Response to the Challenges of Protecting Privacy* (Jan. 8, 2000) [hereinafter *Swire Manuscript*] (unpublished manuscript), *available at* <http://www.peterswire.net/stanford7.doc>.

sial question of whether and how to amend the Electronic Communication Privacy Act of 1986 (ECPA).¹⁵ ECPA is an important statute for law enforcement—it sets forth the standards by which police and prosecutors can get access to emails and other electronic communications. ECPA, though, is also an important law about corporate and personal privacy. For corporations, ECPA sets the rules for what sorts of access to corporate databases should be permitted, under what circumstances, and at what cost. For individuals whose records may be seen by law enforcement, ECPA creates the rules of the road for privacy protection, especially in our modern world when many records are stored in the “cloud” and thus at least potentially accessible to law enforcement.

ECPA thus provides one example of how multiple compelling values can come into play in clearing the administration’s testimony to Congress. On September 22, 2010, both James Baker of the Department of Justice and Cameron Kerry of the Commerce Department testified before the Senate Judiciary Committee.¹⁶ Under the clearance rules, the testimony of both witnesses had to be shared in advance with the other, and the administration had to develop a common position. In my experience, sharing a draft document with an agency with a sharply different perspective is often extremely valuable—assumptions held in the initial agency get challenged, overstatements are modified, and the number of mistakes is reduced. Although I have no direct knowledge of the clearance process in this instance, I think it quite possible that the presence of the Department of Commerce in the process helped create a more nuanced and privacy-protective administration position.¹⁷

The ability of an independent agency, such as the FTC, to have a similar role in clearance is sharply limited. Based on my own experience and on background discussions with people at the FTC, the FTC is not staffed well enough or situated close enough to the “inside” to engage in the day-to-day clearance of documents on the many law enforcement issues affecting commerce and privacy, including the ECPA, the Communications Assistance to Law Enforcement Act, rules about encryption controls, and so forth.

From my time as Chief Counselor for Privacy, the number of priva-

15. 18 U.S.C. § 2510 (2006).

16. See *The Electronic Communications Privacy Act: Promoting Security and Protecting Privacy in the Digital Age: Hearing Before the S. Comm. on the Judiciary*, 111th Cong. 171-84 (2010) (statement of Cameron Kerry, General Counsel, U.S. Dep’t of Commerce), available at <http://judiciary.senate.gov/pdf/10-09-22KerryTestimony.pdf>; see also *The Electronic Communications Privacy Act: Promoting Security and Protecting Privacy in the Digital Age: Hearing Before the S. Comm. on the Judiciary*, 111th Cong. 57-63 (2010) (statement of James A. Baker, Assoc. Deputy Att’y Gen. of the United States), available at <http://judiciary.senate.gov/pdf/10-09-22BakerTestimony.pdf>.

17. I served in the National Economic Council until August 2010, before the September 2010 testimony described in the text.

cy issues addressed by federal agencies is far greater than realized by most people who have worked primarily on privacy with the FTC. I offer a list here as an illustration of the sorts of privacy issues that can arise in each of the cabinet departments. For many of the agency activities there are important implications for commerce which provide a natural role for the Department of Commerce on commercial privacy issues. For others, the link to commerce is less direct, but a broad-based experience with privacy issues at the Department of Commerce will facilitate development of a sound administration position on privacy:

Department of Agriculture: Migrant worker records.

Department of Defense and Veterans Affairs: Records of service members.

Department of Education: Education records, including for for-profit institutions.

Department of Energy: Smart grid.

Department of Health and Human Services: Medical records; many forms of human services records.

Department of Homeland Security: Numerous issues, including transportation safety and immigration.

Department of Housing and Urban Development: Public housing records.

Department of Interior: National park reservations and other services provided online.

Department of Justice: Numerous issues.

Department of Labor: Records of union membership.

Department of State: International privacy issues.

Department of Transportation: Smart roads.

Department of Treasury: Financial privacy; money laundering.

Along with clearance, another role for the executive branch is to **develop and announce the administration position in international settings**. The Green Paper discusses the office's role in international privacy activities, but it is worth explaining a bit how this would complement any international activities by the FTC.

The FTC plays at least three roles on international privacy issues. First, the FTC is the designated enforcement agency for complaints un-

der the U.S.-E.U. Safe Harbor.¹⁸ Second, the FTC's overall privacy expertise and convening functions inform international discussions about privacy issues, and there has been international cooperation on enforcement actions.¹⁹ Third, in 2010 the FTC for the first time received full member status in the closed session of data protection authorities at the International Conference of Data Protection and Privacy Commissioners.²⁰ Executive branch officials continue to attend the closed session, as they have since 1999, but with "observer" status.²¹

These important FTC international activities, however, do not replace the need for the executive branch to have policy capability about privacy. For instance, privacy and e-commerce issues arise in a wide range of bilateral and multilateral trade negotiations. Because transborder data flows are such an important part of modern commerce, data-related issues can arise as one piece of many larger trade negotiations, which often involve the International Trade Administration of the Department of Commerce. Some multilateral fora persistently address privacy issues, such as the Asia-Pacific Economic Cooperation and the Organization for Economic Cooperation and Development. The U.S. delegations for these activities are led by the executive branch, with representation from the Commerce and State Departments.

More generally, the clearance process applies to developing and implementing the position of the United States in international negotiations. The FTC as an independent agency would have no basis for making representations, for instance, about what any executive branch agency would accept, including for law enforcement, homeland security, and non-privacy commercial issues. There is thus a sound basis for the Green Paper's recommendation that the office "would work in concert with the Executive Office of the President as the Administration's lead on international outreach on commercial data privacy policy."²²

18. See Government Enforcement, EXPORT.GOV, http://www.export.gov/safeharbor/eu/eg_main_018476.asp (last visited Dec. 1, 2011).

19. For links to cross border enforcement sweep press releases, see Cross Border Fraud, FED. TRADE COMM'N, <http://www.ftc.gov/bcp/edu/microsites/crossborder/press> (last visited Dec. 1, 2011).

20. See *Privacy: Generations, the 32nd International Conference of Data Protection and Privacy Commissioners Closes with a New Executive Committee and New Members*, THE ISRAELI LAW, INFORMATION AND TECHNOLOGY AUTHORITY [ILITA], <http://www.justice.gov.il/PrivacyGenerations/News/news18.htm> (last visited Dec. 1, 2011).

21. As Chief Counselor for Privacy, I was the first U.S. official to participate in the closed session, in the annual meeting held in Hong Kong.

22. See GREEN PAPER, *supra* note 1, at 72.

III. WHETHER PRIVACY POLICY SHOULD BE CENTERED IN THE COMMERCE DEPARTMENT OR THE EXECUTIVE OFFICE OF THE PRESIDENT

I believe there is an extremely strong case in favor of developing an ongoing privacy policy capability in the executive branch. Privacy policy requires familiarity with a complex set of legal, technological, market, and consumer considerations. Good government thus calls for creating an institutional memory and a group of civil servants experienced in privacy policy. This privacy policy capability goes well beyond the need for federal agencies to comply with the Privacy Act and implement good practices for the personal information they hold.²³

Where to locate this privacy policy capability is less clear. In a 1998 book, Robert Litan and I discussed the question in detail, and concluded that a privacy policy office should be created in the Department of Commerce.²⁴ From 1999 until early 2001, by contrast, I served in the role of Chief Counselor for Privacy in the OMB, and I have written reasons for supporting that approach as well.²⁵

The chief advantages and disadvantages are mirror images of each other. Placing the office in the Commerce Department allows for substantially greater staffing, increasing the chance that institutional expertise will accumulate through the ups and downs of public attention to privacy protection. The Commerce Department, however, will be only one of the various agencies who may have views on a particular privacy issue, increasing the risk that privacy will lose out in clearance. On the other hand, placing the policy leadership in OMB or elsewhere in the Executive Office of the President likely improves the possibility of effective coordination of privacy policy across the various agencies. Staffing, however, is always tight at the White House. The Chief Counselor for Privacy, at most, had two full-time staff and one detailee from the Commerce Department.

One model worth considering is the position that Howard Schmidt now fills as Cybersecurity Coordinator. Mr. Schmidt is part of the national security staff, and also coordinates with the National Economic Council.²⁶ My understanding is that a significant amount of support for the Cybersecurity Coordinator is provided by various agencies rather than directly by staff of the Executive Office of the President. A hybrid

23. See 5 U.S.C. § 552(a) (2006).

24. PETER P. SWIRE & ROBERT E. LITAN, *NONE OF YOUR BUSINESS: WORLD DATA FLOWS, ELECTRONIC COMMERCE, AND THE EUROPEAN PRIVACY DIRECTIVE 179-88* (1998).

25. See, e.g., Swire Manuscript, *supra* note 14.

26. Macon Phillips, *Introducing the New Cybersecurity Coordinator*, THE WHITE HOUSE BLOG (Dec. 22, 2009, 7:30 AM), <http://www.whitehouse.gov/blog/2009/12/22/introducing-new-cybersecurity-coordinator>.

approach of this sort might achieve more effective privacy policy coordination while also retaining ongoing staffing.

This sort of role might also usefully integrate with the Privacy and Civil Liberties Oversight Board, for which President Obama recently nominated James Dempsey and Elizabeth Collins Cook. That board, to be effective, should have professional staff to carry out its task of working on privacy and civil liberties issues that affect anti-terrorist activities. As shown by the example of the Electronic Communications Privacy Act, anti-terrorist and law enforcement activities often have intricate inter-connections with the commercial actors that own and operate most of the infrastructure for processing personal information. It quite possibly makes sense to permit dual tasking of personnel assigned to the board to work on privacy issues that concern commercial privacy. If this were done, an Executive Office of the President privacy coordinator role could be supported both by commercial privacy experts and persons assigned to the oversight board.

In short, various institutional choices might succeed for institutionalizing privacy policy in the executive branch. It is a good sign that the Department of Commerce Green Paper is reinvigorating the debate about how best to protect privacy while achieving other important policy goals.

CONCLUSION

In conclusion, the arguments here show important tasks for a Privacy Policy Office in the executive branch, which would complement the FTC's ongoing privacy activities. Notably, such an office would improve interagency clearance, and be important in developing and stating the position of the United States government in international settings. Based on my own discussions with people at the FTC, the FTC does not have the budget or institutional structure to attempt to participate in all of the issues touching on commercial privacy throughout the federal government.

Contrary to the concerns expressed by some privacy advocates that such an office would undermine privacy protections, the general effect of such an office would be to improve privacy policy expertise and capabilities because these functions complement existing FTC activities. In addition to the advantages described above, executive branch participation in development of industry codes of conduct permits expert input from a range of federal agencies and also brings those agencies up to speed on evolving technology. Another advantage is that an executive branch privacy capability can lend force to legislative or other privacy initiatives—when both the FTC and the administration work together on an issue, the combined effect is likely to be greater than when an independent agency such as the FTC acts alone. Because the administration is likely to be asked to provide its views on important legislation in any

event, the existence of an ongoing privacy office in the executive branch will lead to better-informed privacy policy decisions by the administration.

The existence of such an office would also provide a more effective structure for the administration to weigh privacy concerns with other competing policy goals and values. The hope, which I believe is supported by experience, is that participation by privacy experts in executive branch decisions increases the likelihood of win-win situations in which privacy goals are better achieved along with other goals.

In short, the Department of Commerce deserves praise for advancing the idea of an ongoing Privacy Policy Office as part of its Green Paper.

CLLOUD CONTROL: COPYRIGHT, GLOBAL MEMES AND PRIVACY

DANIEL J. GERVAIS & DANIEL J. HYNDMAN*

Imagine for a moment that electricity was used only to power one kind of computer known as an *electricity computer*. That is what computer power is like now: it mainly powers devices that sit on our desks with qwerty keyboards attached. As computing becomes a utility it will power many more devices, many of them with no user interface, more of them mobile and handheld. The Cloud should also encourage collaboration. Different people, using different devices should be able to access the same documents and resources more easily.¹

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1. CHARLES LEADBEATER, CLOUD CULTURE 29 (2010).

INTRODUCTION

iTunes' Match service scans a user's computer to determine which music is there and then gives that user access to the same music (though contained in different, "clean" files) on its Cloud.² In that process iTunes matches song titles with those in its database, but reportedly it can also determine whether each song on the user's computer was originally an iTunes download, ripped from a CD or acquired (presumably illegally) via peer-to-peer (p2p) networks.³ If and when this occurs, a list is generated on Apple's servers matching the user's iTunes account with a specific number of p2p acquired songs. What would prevent record companies from subpoenaing that list and suing the account holder for \$150,000 per song, the maximum amount of statutory damages allowed under the US Copyright Act?⁴ The user's privacy interests are unlikely to stand in the way, as we demonstrate in this Article. In fact, record companies may not even have to notify a user that they are asking for access to those files. They would have to notify Apple, of course. However, other than the very real possibility that the rule against fishing expeditions would apply, it might in fact be hard for Apple to make a case against the subpoena.⁵

This scenario is one of many such examples because soon everything digital will be in the Cloud, including our personal data. Almost every bit of human culture, every song, book, document, and movie ever made. Then everything about us: banking and tax information, online purchase history, Facebook posts, Tweets, pictures, and even a full backup of our personal files—and eventually the files themselves.⁶ This portentous change will have significant advantages,

2. See iCloud, APPLE.COM, <http://www.apple.com/icloud/features> (last visited Nov. 19, 2011).

3. See Mike Masnick, *Forget Laundering Unauthorized Music Via Music Match, What About AirDrop Darknets?*, TECHDIRT (June 7, 2011), <http://www.techdirt.com/articles/20110606/20285814570/forget-laundering-unauthorized-music-via-music-match-what-about-airdrop-darknets.shtml>.

4. Copyright Act, 17 U.S.C. § 504(c)(2) (2010). One might legitimately ask why record companies would license Apple to do all of this "cleaning" for a mere \$25. See *id.* Can it be said that Apple is encouraging a pre-cleaning p2p bonanza so that more files will be cleaned? Let us push the scenario one step further. If file-sharing is made a felony, as proposed in bills pending as of this writing, would it be possible to make a conspiracy case against Apple? See Commercial Felony Streaming Act, S. 978, 112th Cong. (2011); Stop Online Piracy Act, H.R. 3261, 112th Cong. (2011). It is not clear that the bills will pass, of course. A similar attempt failed in 2003. See Jay Lyman, *New Bill Makes File Swapping a Felony*, TECHNEWSWORLD (July 7, 2003), www.technewsworld.com/story/31138.html.

5. See, e.g., Julie Samuels, *Judge Shuts Down Another Mass Copyright Case, Characterizes Lawsuits as "Massive Collection Scheme"*, ELECTRONIC FRONTIER FOUNDATION (Sept. 8, 2011), <http://www.eff.org/deeplinks/2011/09/judge-shuts-down-another-mass-copyright-case>.

6. Access to media on the Cloud, particularly music, has become one of the most

such as access to all those resources much more easily and on any digital device, an approach illustrated by Apple's recent platform paradigm uniting all Apple devices belonging to the same user.⁷ The Cloud will not replace personal storage but it will reduce the (perceived) need to keep individual copies and thus serve as a general depository for both commercial and private content, and of course all kinds of admixtures of both, most notably to create "user-generated content."⁸

The Internet itself was a major shift from a central or mainframe architecture to a client-server architecture. Pre-Cloud, the Internet was used to transport data and allow hundreds of millions of individual and corporate computers on which content was stored to exchange using their Internet identity (an IP address).⁹ Switching from this *connection paradigm*, in which the Internet was essentially a network connecting computers, to an *amalgamation paradigm*, where user computers and devices are merely tools used to access private and commercial content amalgamated on server farms operated by major intermediaries, is not a

popular uses among normal users. Services like iTunes (www.apple.com/itunes) allow for users to pick and choose which tracks they want to buy and download, while Grooveshark (www.grooveshark.com) allows for direct streaming of many tracks directly from the user's Internet browser. Most banks have their own sites for online banking (for example, www.bankofamerica.com), and now users can monitor personal finances in the Cloud using something like Mint (www.mint.com). Amazon (www.amazon.com) keeps track of your purchases and uses that information to make recommendations on other things you might like. In the social part of the Cloud, Facebook (www.facebook.com) is perhaps the most important player, but simple services like Twitter (www.twitter.com) are increasing in popularity if they are able to find the right niche to fill. Google (www.google.com) has a wide variety of ways to store personal media in the Cloud and share it with others, including YouTube (www.youtube.com) for videos and Picasa (picasa.google.com) for photos. Dropbox (www.dropbox.com) offers a service that allows users to store their files online so they can be accessed anywhere while behaving as just another part of the user's hard drive to create a seamless integration of the home computer and the Cloud.

7. Apple's (www.apple.com) push for unifying the use of all its products into one experience reflects their general attempt at providing a simple-to-use experience without requiring a lot of computer knowledge. When the iPod first appeared, it was a simple, but revolutionary, mp3 player. Now, the iPod can access the Internet to synchronize with the user's iTunes profile, allowing access to a lot of music at any time. The iPhone contains a lot of similar functionality. The iPad, Apple's newest gadget, seems to bridge the gap between a smart phone and a netbook, allowing users to do many of the things they would do on a computer, but through the touch screen interface similar to the iPhone. All of these products use Internet access to sync with the user's media and data they have stored in the Cloud, unifying the user's experience.

8. See Paul Resnikoff, *The Cloud: It's Not an Evolution . . .*, DIGITAL MUSIC NEWS (Mar. 2, 2011), http://www.digitalmusicnews.com/stories/030211Cloud?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+digitalmusicnews+%28Digital+Music+News%3A+Top+Stories%29.

9. This is usually described as the Transport Layer and the Internet Layer. See NICHOLAS CARR, *THE BIG SWITCH: REWIRING THE WORLD, FROM EDISON TO GOOGLE* 54–55 (2008).

benign change.¹⁰ One can easily delete a file on one's computer and overwrite the old file location to make the data unrecoverable.¹¹ Will it be possible to completely delete information uploaded to the Cloud? If not, do we still *own* information we upload to the Cloud?¹² How will privacy be protected when every bit of information and every bit of digital content belonging to each one of us resides on the same servers? Will major content providers such as record labels and film studios gain greater control on how we access and use commercial copyrighted content? Who will have *jurisdiction* over the Cloud? If countries adopt different jurisdictional tests (headquarters of Cloud operator, location of servers, etc.) conflicts and uncertainty are just around the corner.

In this Article, we tackle two of the most important questions raised by the emergence of the Cloud: privacy and copyright. In both cases, we have tried to identify how the application of extant rules may be altered by the architecture of the Cloud. Then we consider ways to ameliorate those rules to avoid some of the most problematic aspects of the move to the Cloud. Accordingly, after defining the "Cloud" in Part I, in Part II we consider copyright and related cultural issues, in particular access to and control of culture. Part III presents the challenges for privacy protection in the Cloud, and Part IV suggests reforms to privacy law and policy.

I. DEFINING CLOUD COMPUTING

A. *A New Global Infrastructure*

Cloud computing is a term used to describe a *global technological infrastructure* in which the user of a computer accesses and uses software and data located outside of the user's personal computer or other digital device.¹³ The user connects to these external devices by way of an Internet connection, but typically has no knowledge of the nature or even location of the server on which the data and software are located. This anonymous, external, and often unidentifiable interaction is known as "cloud computing" or simply "the Cloud."¹⁴

10. See *supra* text accompanying note 6.

11. One could also physically destroy the medium, of course.

12. The right to destroy one's own property goes back as far as Roman law, though it has had its detractors, including John Locke to some extent. It is an extension of the right to exclude, in that it effectively excludes everyone, including the owner, from use at any time in the future. The extent to which this applies to electronic data has not been decided though the value of personal data to society seems minimal and as such, people should be allowed to destroy it as they see fit. The question still remains as to whether a user still owns data that they've put in the Cloud. See generally Lior Jacob Strahilevitz, *The Right to Destroy*, 114 YALE L.J. 781 (2005).

13. *Battle of the Clouds*, ECONOMIST, Oct. 15, 2009, at 16, available at <http://www.economist.com/node/14644393>.

14. See JOTHY ROSENBERG & ARTHUR MATEOS, *THE CLOUD AT YOUR SERVICE* 1-3

As already noted, this is not a benign change. Before the advent of Cloud computing, users mostly ran software and processed data on their own personal computer. The Internet was used to transmit processed data between two or more computers.¹⁵ In contrast, with Cloud computing, the user stores (uploads) and accesses (downloads) data located on external computers that the user does not own, does not control, and cannot locate. She only knows (hopefully) which entity ostensibly provides access to the service, whether it be storage (backup), data processing (access to a program), or both.¹⁶

One of the main reasons for the rise in popularity of Cloud computing has been the increase in Internet download and upload speeds.¹⁷ The use of the Cloud as a backup storage facility is only practical if it is possible to get large amounts of data transferred to the Cloud at reasonable speeds.¹⁸ On the slow Internet connections that were available in the mid-1990s, it would simply not have been practicable to upload a large collection of files to a server over the Internet. The 56 kilobit/second modems of the 90's have given way to the much faster cable modems and other modern networking devices, offering speeds 1000 times faster or more.¹⁹

At some point in this progression of Internet speed, a threshold was crossed. It marked Internet users' ability to access services offered in the Cloud just as easily as running software on their computer.²⁰ The process began with relatively low bandwidth services that didn't require a constant flow of information, like email services that store the messages

(2010); Daniel Lyons, *Today's Forecast: Cloudy*, NEWSWEEK, Nov. 1, 2008, at 24, available at <http://www.newsweek/id/166818>.

15. Nelson Minar & Marc Hedlund, *Chapter 1: A Network of Peers: Peer-to-Peer Models Through the History of the Internet*, in *PEER TO PEER: HARNESSING THE POWER OF DISRUPTIVE TECHNOLOGIES* 3, 3 (Andy Oram ed., 2001), available at <http://oreilly.com/catalog/peertopeer/chapter/ch01.html> (Chapter 1 contains a good basic description of the Peer-to-Peer Model and Client-Server Models).

16. *See id.* at 3-4; CARR, *supra* note 9.

17. Webmail services like Yahoo! Mail (<http://mail.yahoo.com>) could be used effectively even at dialup Internet speeds (maximum of 56 Kbps), but services like video streaming through Netflix (www.netflix.com) require some degree of broadband connection to be fully functional.

18. Arif Mohamed, *A History of Cloud Computing*, COMPUTERWEEKLY.COM (Mar. 27, 2009), <http://www.computerweekly.com/Articles/2009/06/10/235429/A-history-of-cloud-computing.htm>.

19. *Compare* FiOS Internet, VERIZON.COM, <http://www22.verizon.com/Residential/Fiosinternet/#plans> (last visited Nov. 19, 2011) (Verizon's fiber optics-based Internet that can deliver a maximum of 50 Mbit/s), with Minnie Ingersoll & James Kelly, *Think Big with a Gig: Our Experimental Fiber Network*, THE OFFICIAL GOOGLE BLOG (Feb. 10, 2010, 8:00 AM), <http://googleblog.blogspot.com/2010/02/think-big-with-gig-our-experimental.html> (Google's plan to begin offering 1 Gbit/s connections).

20. Mohamed, *supra* note 18.

on their own servers.²¹ With recent ameliorations in bandwidth (broadband) availability, those services have expanded to the point of streaming high quality video and audio media directly over an Internet connection with little or no waiting time.²² It seems reasonable to predict that as the network infrastructure becomes capable of providing new kinds of services and user experiences reliably, the Cloud will expand to new areas. The end game is probably one in which all digital content is either stored exclusively on, or at least backed up on, the Cloud.

Another important factor in the growth of Cloud computing has been the expansion in number and type of digital devices. In the early years of personal computing, a single computer was a luxury item, and few people owned more than one.²³ However, with advances in hardware design and the shrinking of processor chips,²⁴ it is now normal for a household to have multiple desktop computers. In parallel, portability increased (laptops), and small devices (phones) became more powerful and able to transmit and process digital data files.²⁵ The very existence and relative affordability (at least in industrialized countries) of these devices has created an enormous demand for services that can be used in a cross-platform way. This allows a user to check email, download and listen to music and movies, and watch YouTube videos whether the user is at home on his couch or riding a train to work.²⁶ Netbooks are perhaps not just a cause of Cloud computing but also an effect.²⁷ Many such devices take advantage of the fact that a lot of processing and storage of information is done on the Cloud. In fact, the rapid rise in computing

21. For example, YAHOO! (<http://mail.yahoo.com>), HOTMAIL (<http://www.hotmail.com>), and more recently GMAIL (<http://mail.google.com/mail>).

22. For example, NETFLIX (<http://www.netflix.com>).

23. Average personal computer prices fell below \$1000 in November 1998. See Nancy Weil, *Average PC Price Drops Below \$1000*, PC WORLD (Dec. 22, 1998), http://www.pcworld.com/article/9150/average_pc_price_drops_below_1000.html. In October 2009, the average price of portable Windows personal computers fell to \$519. See Shane O'Neill, *Falling PC Prices Pit Microsoft Against PC Makers*, CIO.COM (Dec. 2, 2009), http://www.cio.com/article/509556/Falling_PC_Prices_Pit_Microsoft_Against_PC_Makers.

24. See, e.g., Moore's Law, WIKIPEDIA.COM, http://en.wikipedia.org/wiki/Moore%27s_law (last visited Dec. 24, 2011).

25. The current iteration of Apple's popular iPhone can be used to browse the Internet, run hundreds of different applications, and take and share photos and video. It even allows for live video chat between two devices. See *Apple – iPhone 4 – FaceTime, Retina Display, and More Features*, APPLE.COM, <http://www.apple.com/iphone/features> (last visited Nov. 19, 2011).

26. Cloud providers like Apple and Google have begun to provide nearly seamless experiences between various devices when it comes to accessing email, photos, or music, all of which are now easily stored in the cloud. See GMAIL, <http://mail.google.com>; ITUNES, <http://www.apple.com/itunes>; YOUTUBE, <http://www.youtube.com>.

27. A netbook is a personal computer that is meant to be smaller than modern laptops with an emphasis on battery life and portability. This is achieved by including smaller, less powerful components. A netbook relies on applications that can be run from the Internet in an Internet browser for most of its functionality, making it heavily reliant on the Cloud.

power may be slowed dramatically, as the focus shifts to smaller and less expensive devices.²⁸ By using the Cloud, netbook and phone manufacturers are able to use cheaper, smaller, less power-hungry hardware to create tiny devices with long battery life.²⁹

Everyone is using the Cloud it seems, from the basic, casual user to the large corporation.³⁰ Casual users use Cloud computing to stay connected with their friends and to maintain a persistent presence on the Internet. Access to Facebook has connected millions of normal people who may have otherwise lost touch with each other or never met.³¹ Digital stores allow users to shop easily from anywhere.³² At the beginning of 2010, iTunes crossed the line of 10 billion songs sent to users.³³ Services like Steam allow users to purchase computer games that are then tied to an online account.³⁴ This allows users to access their account and games from any device without CDs or other forms of hardware media. In fact, the Cloud may just mark the end of the CD as a vehicle to sell software.³⁵ For casual users the Cloud is not just about media, however. There are myriad ways to use the Cloud for productive interaction. For example, Google Docs allows for sharing of documents, and multiple people can edit a document or spreadsheet.³⁶ More generally, the Cloud offers opportunities to share and transform content collaboratively thus offering new modes of expression for creativity.³⁷

Companies use the Cloud for different purposes, as a way to increase the efficiency of their operations. For example, by storing files and using the Cloud's processing power, they avoid expensive investment in hardware.³⁸ Companies now pay for computing power and

28. See, e.g., Yukari Iwatani Kane & Don Clark, *Apple's iPad Chalks Up Strong Sales in Weekend Debut*, WALL ST. J. ONLINE (Mar. 14, 2011), <http://online.wsj.com/article/SB10001424052748704027504576198832667732862.html> (iPad sales and projections).

29. For example, the low prices of netbooks. See Shane O'Niell, *Netbook Price War Could Hurt Microsoft*, PC WORLD (Apr. 14, 2009), http://www.pcworld.com/article/163095/netbook_price_war_could_hurt_microsoft.html.

30. Microsoft's push "to the Cloud" by providing Cloud services. See Cloud Power, MICROSOFT, <http://www.microsoft.com/en-us/cloud/default.aspx?fbid=iqpEbSWZGHV> (last visited Nov. 19, 2011).

31. See FACEBOOK, <http://www.facebook.com> (last visited Nov. 19, 2011).

32. See, e.g., AMAZON, <http://www.amazon.com> (last visited Nov. 19, 2011).

33. Philip Elmer-Dewitt, *Apple iTunes: 10 Billion Songs Later*, CNN.COM (Feb. 24, 2010), <http://tech.fortune.cnn.com/2010/02/24/apple-itunes-10-billion-songs-later>.

34. See STEAM, <http://store.steampowered.com> (last visited Nov. 19, 2011).

35. Steam, an online video game vendor, is estimated to have sales of \$1 billion in 2010. See Paul Tassi, *Steam Sales Estimated Close to \$1 Billion in 2010*, FORBES.COM (Feb. 4, 2011), <http://blogs.forbes.com/insertcoin/2011/02/04/steam-sales-close-to-1-billion-in-2010>.

36. See GOOGLE DOCS, <http://docs.google.com> (last visited Nov. 19, 2011).

37. See Daniel Gervais, *The Tangled Web of UGC: Making Copyright Sense of User-Generated Content*, 11 VAND. J. ENT. & TECH. L. 841 (2009); William W. Fisher III, *The Implications for Law of User Innovation*, 94 MINN. L. REV. 1417 (2010).

38. CARR, *supra* note 9.

storage space as a utility.

B. NIST Definition

The National Institute of Science and Technology (NIST) has created a definition and description of the term “cloud computing,” allowing for a more coherent conversation on the topic.³⁹ The definition states:

Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. This cloud model promotes availability and is composed of five essential characteristics, three service models, and four deployment models.⁴⁰

NIST admits that, along with most topics regarding Cloud computing, this definition and the terms used are subject to rapid change due to the relatively recent explosion in advancement and popularity of the model. However, it does provide a jumping-off point for detailed discussion about the attributes, advantages, and disadvantages of Cloud computing. The five essential characteristics mentioned in the definition are:

- On-demand self-service
- Broad network access
- Resource pooling
- Rapid elasticity
- Measured service⁴¹

Let us look at each of these features briefly.

On-demand self-service defines the importance of automated access to the services and resources provided in the Cloud. The user needs to be able to interact with Cloud services without the need for a human intermediary. This factor is mostly taken for granted in the current state of the Internet. The convenience inherent in this factor is one of the most important requirements for a successful Cloud service.

Broad network access means that the service should be accessible across a variety of devices. This factor, like the previous one, is important but now mostly obvious. If a user’s access to an email service

39. See PETER MELL & TIM GRANCE, NAT’L INST. OF STANDARDS & TECH. [hereinafter NIST], 15 THE NIST DEFINITION OF CLOUD COMPUTING (2009), <http://www.nist.gov/itl/cloud/upload/cloud-def-v15.pdf>.

40. *Id.*

41. *Id.*

were limited to that user's home computer, it would be no different from the user simply downloading email and storing it on that computer. Part of the key of the success of Cloud services is their inter-operability with a variety of devices, using a cross-platform user interface.

Resource pooling is a characteristic that exists behind the scenes and is less obvious to users but no less important. It reflects the necessity of the Cloud service provider monitoring the use of computing resources and controlling the allocation of those resources. For instance, when a user uploads a video to YouTube, to some extent it appears one can upload an endless number of files. YouTube does not assign a hard drive or part of a specific server to a user. Videos are merely allocated a certain amount of space that exists in the provider's large pool of video storage space, known as a "server farm." It is up to the provider to properly and efficiently control the allocation of that storage pool. The user remains on the outside with no real knowledge of which particular physical resource he is using or accessing, including its actual location.

Rapid elasticity is related to resource pooling. While resource pooling is about abstracting the user away from knowledge of the resource used, rapid elasticity requires that the service provider be able to quickly handle changes in resource allocations. The provider must be able to scale up quickly to users' needs and scale down just as quickly to keep the maximum amount of resources free for use. In this way, the service provider retains what one might call the "Cloud effect," that is, keeping users insulated from knowledge of the behavior and limitations of the system's capabilities as much as possible.

Measured service is a factor that defines the interaction between user and provider. Allowing users to pay per unit of service is attractive in that it allows users to obtain up-to-date computer services without investing in new hardware and software. With a "measured service," companies or individuals can contract to get only the services they want or need.

The NIST Cloud computing definition also describes several service and deployment models which, for the most part, are beyond the scope of this paper. However, they highlight an important idea that resurfaces repeatedly, namely the Software as a Service (SaaS) model.⁴² This model describes the interaction of most users with Cloud services. It is represented in many popular websites, including Gmail, YouTube, Facebook, Picasa, Google Docs, and Amazon.com. Even search engines could arguably be placed under the SaaS model. Each of these websites offers a service in the form of a relatively simple website where processing is done outside of the user's view. These services behave like

42. *Id.*

a black box: The user inputs information and receives a result, but what happens between the two is hidden.

Two other models, Platform as a Service (PaaS) and Infrastructure as a Service (IaaS), are also described by NIST. They allow users to stack their own software on top of a Cloud platform, giving the user progressively more control over her information.⁴³ These types of models are not as commonly used by average Internet users, and thus will not be discussed further in this Article.

The NIST definition of Cloud computing is probably the most precise definition that is currently possible, despite its fairly broad scope.⁴⁴ This is due to the nature of the Cloud itself. In most basic terms, the Cloud is the Internet. Almost everything that an average computer user does occurs at least in part in the Cloud.⁴⁵ The scope of the impact of this infrastructural shift on privacy, personal information, and copyright is something that one grasps almost intuitively. Let us look at it more closely.

II. COPYRIGHT, CULTURE & THE CLOUD

A. *Regulating the Internet*

Looking at copyright protection online means asking a very basic question: can governments control the flow of material on the Internet? Peer-to-peer file-sharing has been under relentless legal pressure, to no avail it seems. In some cases, “success” is at hand. In China, Internet control seems to have been far from successful but interestingly based much more on technology to fight technology than on (theoretical) legal remedies.⁴⁶ In the first few weeks of 2011, the Egyptian government tried to shut down some or all of the Internet but, given the interconnected and transnational nature of the beast, had limited success.⁴⁷ More importantly perhaps, the global outcry was both

43. *Id.*

44. The concept of the Cloud currently occupies a very broad set of functionality. It means different things to companies than to individual users. The NIST definition accounts for that difference by using technical language that accurately reflects the many aspects of the Cloud. See Eric Knorr & Galen Gruman, *What Cloud Computing Really Means*, INFOWORLD (Apr. 7, 2008), <http://www.infoworld.com/d/cloud-computing/what-cloud-computing-really-means-031>.

45. Email and browsing the Internet have become two of the most common uses for personal computers. Both of these, by their nature, go into the Cloud to retrieve new email or websites. Social computing websites like Facebook (<http://www.facebook.com>) or Twitter (<http://www.twitter.com>) also have a massive amount of users each day, and they use the cloud to store the users' data.

46. See Jonathan Zittrain, *The Fourth Quadrant*, 78 FORDHAM L. REV. 2767, 2773-75 (2010).

47. See Christopher Williams, *How Egypt Shut Down the Internet*, THE

immediate and extremely loud.⁴⁸

The principal difficulty of regulating the Internet stems from the fact that the Internet was architected using packet switching technology and the ubiquitous Internet Protocol.⁴⁹ This makes the Internet independent of the underlying hardware and thus makes it much harder to control than a mainframe-based or hub-and-spoke network with a single brain.⁵⁰ In fact, the Internet was precisely that: a shift from a central or mainframe architecture to a client-server architecture in which the Internet basically serves to transport data and allow computers to have an identity (an IP address).⁵¹ The last fifteen years were thus attempts to regulate what amounted “only” to a communication system, a neutral infrastructure to transmit packets of bits from one computer to another. Controlling *that* Internet meant controlling information as it was moving between the computers of individual users.

This raised a number of issues. For example, when trying to enforce copyright in content stored in files on those computers, copyright law had to spar with privacy considerations. Servers stored data, but private data and most data processing functions took place on individual computers in our homes and offices, often within our private sphere, protected by our reasonable expectations of privacy.⁵²

Then the attention turned to Web 2.0 and the increasing importance of social networking sites and the use of networks to connect people according to their affinities.⁵³ Web 2.0 was a sign of things to come. More content stored on Facebook, Flickr, or YouTube’s servers and, increasingly, use of all manner of new devices used to connect to and modify that content. Indeed, as noted in the introduction, the Internet has

TELEGRAPH (Jan. 28, 2011), <http://www.telegraph.co.uk/news/worldnews/africaandindianocean/egypt/8288163/How-Egypt-shut-down-the-internet.html>.

48. *Id.*

49. See CARR, *supra* note 9 and accompanying text.

50. See generally James Boyle, *Foucault in Cyberspace: Surveillance, Sovereignty, and Hardwired Censors*, 66 U. CIN. L. REV. 177 (1997).

51. This is usually described as the “Transport Layer” and the “Internet Layer.” See CARR, *supra* note 9, at 54-55; see generally *id.*

52. The Sony Rootkit debacle comes to mind. See Lilian Edwards, *Coding Privacy*, 84 CHI.-KENT L. REV. 861, 869 (2010); William Jeremy Robison, *Free At What Cost?: Cloud Computing Privacy Under The Stored Communications Act*, 98 GEO. L.J. 1195, 1233-35 (2010).

53. Gervais noted several years ago in an unpublished piece that this had profound social justice implications, as citizens are no longer confronted with information about all sides of an issue, but rather look for information sources that too often reaffirm preconceived notions and possibly prejudiced views. This makes for a much poorer political and public debate. See Daniel Gervais, *Democracy, Technology and Social Justice* (2003) (unpublished manuscript), available at <http://aix1.uottawa.ca/~dgervais/publications/Gervais%20DemocracyTechnology%20and%20Social%20Justice.pdf>.

radically transformed itself. It is no longer a connection among millions of computers on which data is stored and processed. The data—and the software to process it—increasingly resides on the network and thus part of the new network, a communication infrastructure linked to servers with exabytes of content available to all. This scalable and virtual smorgasbord of resources is a by-product of the ease-of-access to remote computing sites, a technology known as Cloud computing.⁵⁴

Access to massive amounts of cultural content in the Cloud and ways to manipulate it may be viewed as a positive development leading to an increase in global cultural—and possibly economic—welfare. It may open cultural access beyond borders and become a great equalizer.

There are more troubling possibilities, however. Governments might like the fact that data and software will reside not on our home computers but on a smaller number of servers.⁵⁵ As we note in the fourth part of the Article, there are significant limits to the privacy of content stored in the Cloud, especially after 180 days. In the Cloud, there is a finite number of intermediaries, and those intermediaries are often commercial (though the emergence of a public interest/non-profit part of the Cloud should not be discounted), and they may not have the consumers' privacy as much at heart as individual users themselves. As such, those intermediaries present an easier set of regulatory and particularly enforcement targets.

Access to the Cloud will more often than not be obtained via proprietary devices and private networks that can much more easily regulate the type of traffic they allow. Whether the Internet remains “neutral” is at the heart of this debate.⁵⁶ As users increasingly switch to being device-based (from game consoles to cell phones to PDAs, etc.), the open nature of the Internet protocol will be veiled by layers of proprietary code designed to maximize income, not access.

B. *The Cloud: The Global Meme Factory*

Human culture not only includes songs and stories, but also habits, skills, technologies, scientific theories, bogus medical treatments, financial systems, and organizations.⁵⁷ All these bits of human culture tend to be imitated and adapted. As such they are what Dawkins referred to as *memes*, that is, “a unit of imitation.”⁵⁸

54. See Strahilevitz, *supra* note 12 and accompanying text.

55. See *supra* Part I.

56. See generally DAWN C. NUNZIATO, VIRTUAL FREEDOM: NET NEUTRALITY AND FREE SPEECH IN THE INTERNET AGE (2009).

57. See Susan Blackmore, *The Third Replicator*, N.Y. TIMES OPINIONATOR: BLOG (Aug. 22, 2010, 5:30 PM), <http://opinionator.blogs.nytimes.com/2010/08/22/the-third-replicator>.

58. RICHARD DAWKINS, THE SELFISH GENE 192 (2d ed. 1989).

The Cloud—once the necessary bandwidth is there to empower it fully—will link all our computers and other digital devices to a virtually infinite array of content and ways to access, process and add to that content, whether as information, entertainment, or both.⁵⁹ Naturally, digital availability is a prerequisite to enter the (digital) Cloud. However, the ongoing digitization of large swaths of our pre-digital culture means that most cultural products will be available.⁶⁰ This type of generalized access to entire repertoires of cultural products is not new, but the Cloud makes it a reality, a *de facto* rule, for almost all cultural production and anyone with Internet access on a mobile phone, computer or other device.⁶¹ There will be more to imitate and more ways to imitate. Hundreds of millions of Internet users are downloading, altering, mixing, uploading, and/or making available audio, video, and text content on personal web pages, social sites, or using peer-to-peer technology to allow others to access content on their computer.⁶²

On the positive side of the technology ledger, therefore, Cloud availability means that a new space is open for almost all cultures to access and adapt cultural artifacts from their own sphere and most if not all others. They can speak and share. Indeed, the Cloud is structurally meant to share. Whether one is looking for *Just Before the Battle* by Mother Campbell, the latest Carrie Underwood video, or a picture (and discussion by local experts) of the Hammurabi Code at the National Library of Iraq, it is all there.

And so are, increasingly, your neighbor's summer vacation photos (on Flickr, Picasa or Facebook), your cousin's attempt at playing his new song on YouTube, and a discussion on the best hot dog in Cleveland (we vote for *Old Fashion Hot Dogs* on Lorain Avenue).

Culture is the *store of meanings* that we have available to make sense of our world (meanings embedded in films, music, books, and

59. See Bernard Golden, *The Skinny Straw: Cloud Computing's Bottleneck and How to Address It*, CIO.COM (Aug. 6, 2009), http://www.cio.com/article/499137/The_Skinny_Straw_Cloud_Computings_Bottleneck_and_How_to_Address_It.

60. The Google Book project is a good example. See Pamela Samuelson, *Google Book Search and the Future of Books in Cyberspace*, 94 MINN. L. REV. 1308 (2010).

61. See CHARLES LEADBEATER, CLOUD CULTURE: THE FUTURE OF GLOBAL CULTURE RELATIONS 19-23 (2010), available at <http://www.britishcouncil.org/russia-projects-cultural-creative-economy-useful-resources-cloudculturecharlesleadbeater> ("A Bedouin should be connected to the same web of communications as people in Cairo, New York and London. In the space of a decade, mobile phones, Wi-Fi, broadband Internet, satellite and digital television have become commonplace, if not ubiquitous. That has brought in its wake a culture of mass self-expression on a scale never seen before, which has the potential to touch and connect us all and to change how we relate to one another through culture . . . We will also be equipped with more tools to allow us to make our own contribution, to post our photograph or composition.").

62. See Gervais, *supra* note 37, at 845-46.

newer formats of cultural dissemination). At no point in history has there been a wider and more open store. This should lead to more global or at least non-geographically bounded memes to emerge.⁶³ Songwriters and designers have access and are influenced by “foreign” memes in a way that might make “foreignness” itself a very different—and much more relative—notation. Internet blogs and other dematerialized cultural scenes will lead to not only small memes, such as catch-phrases, but also more portentous ones, such as beliefs to emerge and spread. For example, perceived oppression of a cultural group such as Falun Gong is information easily acquired in North America, where it may have led to a significant increase in Falun Gong membership.⁶⁴

Yet, as any trip to a warehouse-type store will teach us, in a world with fewer familiar or at least traditional landmarks to guide us, the role of *intermediation* in our process to interpret and define our life and our world will increase exponentially. To take a concrete example, in theory the Cloud should make it easier for students, who by now are all born digital, to apprehend their world and fashion a personality reflecting a more global or “ageographic” perspective, if they so wish.⁶⁵ The intermediation tools they use may not help them get there. Still, global should be the natural order of things on the Internet—though language and geographical preference software are fighting this infrastructural ability to truly offer the world to us on any device.⁶⁶

Another entry on the positive side of our ledger, Cloud content can be manipulated, mashed up or remixed, and new forms of creation are thus increasingly possible.⁶⁷ Then the modified and adapted Cloud content adds to the Cloud, where it also resides, snowballing into billions of new creations.

On the negative side, obviously “available” does not mean free, nor

63. See JIB FOWLES, *ADVERTISING AND POPULAR CULTURE* 23 (1996).

64. See Claire Wright, *Censoring The Censors In The WTO: Reconciling The Communitarian And Human Rights Theories Of International Law*, 3 J. INT’L MEDIA & ENT. L. 17, 35-36 (2010).

65. Whether current educators and parents, many of whom were not born digital, help develop the desire in their students to go global and celebrate difference rather than fear it is quite a different matter, of course. This will greatly influence whether access to the Global Meme Factory “becomes a protective enclosure for endangered identities rather than something that unfolds and opens out.” Charles Leadbeater, *Cloud Culture: The Promise and the Threat*, EDGE (Feb. 2, 2010), http://www.edge.org/3rd_culture/leadbeater10/leadbeater10_index.html.

66. The preference and filters imposed by intermediaries is discussed further *infra* § 2.3. There is, however, another reason to limit our traveling to distant servers. Data costs fractionally more when retrieved from distant locations, but this is usually not reflected in the monthly (flat) subscription rate we pay for online access.

67. See generally LAWRENCE LESSIG, *REMIX: MAKING ART AND COMMERCE THRIVE IN THE HYBRID ECONOMY* (2008); HENRY JENKINS, *FANS, BLOGGERS, AND GAMERS: EXPLORING PARTICIPATORY CULTURE* (2006).

does it mean universal access. Copyright and/or technology can restrict access and/or price to something beyond one's reach, especially if price discrimination is absent. A \$10 book download is not quite the same product for the average netizen in Luxembourg and Burkina Faso, because \$10 is not the same amount of money in relative terms when the per capita GDP goes from \$82,600 to \$1,200 (68:1).⁶⁸ The absence of price discrimination in developing countries, that is the sale of cultural products at "Western" prices, corrals access to culture to the financial "elite" and adds water to the "culture as elitist" mill.

In an ironic twist in the emergence of a supposedly global Cloud, technology increasingly limits access to a number of cultural products with a higher commercial value based on where the user is physically located.⁶⁹ This *should* allow companies to price discriminate and broaden access but, in my anecdotal experience at least, very few actually do.⁷⁰

C. Regulatory Challenges

Regulating any technology that is still inchoate is a hard challenge. Hence, one of the factors that makes Cloud regulation difficult is that the target is moving and may evolve in response to, and resist, attempts to regulate it.⁷¹ As noted above, however, a countervailing force is that the Cloud may in some ways be easier to regulate because access to it, and its operation, require huge investments. Internet Service Providers, server farms, and, more importantly perhaps, companies that will lead us to content, including Google and other search engines, are easier to locate. Regulations would seem easier to enforce than when the targets are hundreds of millions of individual personal computers.

Cloud construction is mostly financed by private investments, and those investors will want to design the Cloud to recoup those investments

68. Luxembourg, THE WORLD FACTBOOK, <https://www.cia.gov/library/publications/the-world-factbook/geos/lu.html> (last visited Nov. 19, 2011); Burkina Faso, THE WORLD FACTBOOK, <https://www.cia.gov/library/publications/the-world-factbook/geos/uv.html> (visited Nov. 19, 2011). The Berne Convention for the Protection of Literary and Artistic Works (Sept. 9, 1886, S. Treaty Doc. No. 99-27, 331 U.N.T.S. 218) is the main copyright treaty with 164 member countries (as of January 2011—see www.wipo.int) has reflected this need for differential treatment since the addition in 1971 of an Appendix allowing developing countries to reproduce and translate books to make them available at a lower price.

69. For example, Netflix is unavailable outside the US and Canada. See NETFLIX, www.netflix.com (last visited Nov. 19, 2011).

70. This seems a sad yet highly intuitive market reality. Building a pricing system that can efficiently price discriminate will cost more, and likely target lower capacity markets. Why would Amazon want to spend money to develop the ability to sell \$1 Kindle download to readers in poorer countries? If this is true it would support the need for non-commercial digital libraries, perhaps with government support, at least in the form of regulation. See LEADBEATER, *supra* note 61, at 15-16.

71. See Daniel Gervais, *The Regulation of Inchoate Technology*, 47 HOUS. L. REV. 665 (2010).

and generate appropriate returns for their shareholders.⁷² From this perspective, the major public-interest regulatory challenge linked to the growth of the Cloud will likely be reconciling commercial interest and free markets with the fact that a small number of major companies will be the guardians of the Cloud, which in turn is the repository of our digital culture. Companies, not governments, will control our day-to-day interaction with the Cloud.

Because one might fear the emergence of *de facto* monopolistic tendencies—even though not all monopolies are abused—governments might want to intervene from a competition policy perspective to ensure that there are several “Clouds.” There will be, as one can plainly see, a major tension between two regulatory reflexes, however: (a) supporting a reduction in the number of control points on the Internet (a few Guardians of the Cloud as easier targets); and (b) ensuring a sufficient degree of competition (i.e., multiple Clouds). The enormous importance gained by intelligence and national security-related controls of the Internet since 9/11 would seem to support the former (fewer and larger players).⁷³ In large part it will be up to civil society and non-profit entities to ensure that the second objective (competition and a reasonable degree of openness and access) remains present in the minds of policymakers. The desired result might take the form of public Clouds, with commercial Clouds developing in parallel.

The risks are real and some observers are already close to a call to digital arms. Referring to the proposed Google Book Settlement as a precursor of a future Google-dominated Cloud, Charles Leadbeater noted that “this possibility, a vastly enhanced global space for cultural expression, is threatened by intransigent vested interests, hungry new monopolists and governments intent on reasserting control over the unruly web. “Judge Chin’s court is a microcosm for the arguments that will rage over the control of culture globally in the decades to come.”⁷⁴ At this juncture, the potential abuses that might arise if the Cloud is left entirely unchecked have yet to materialize on a scale that would warrant massive intervention. Additionally, the nature of the optimal remedies may not be easily determined. If, for instance, one were to decide that Google is abusing its *de facto* monopoly on digitized books, would compulsory access be the best solution? Or should public libraries digitize their own books? While the former seems easier, the optimality

72. The paradigmatic nature of the shift is best illustrated by the fact that access to a book (other than by purchasing a copy) will no longer be provided by a public library; it will be provided by Google Books.

73. See Laura K. Donohue, *The Shadow of State Secrets*, 159 U. PA. L. REV. 77, 139-152 (2010).

74. See LEADBEATER, *supra* note 61, at 16.

of remedies may reside in the latter. For example, public librarians around the world may be far better equipped to determine which books or other content to make available from their own culture. Librarians—non-judicial public resources—might greatly improve not just access, but the quality of the Cloud in ways that a “Cloud capitalist” and judges might not. Still, to defeat its critics Google would have to perform to a probably impossibly high degree of global corporate citizenship and show unparalleled cultural sensitivity.

The most significant risk we see is defective or suboptimal intermediation in Cloud access and content generation. Because *everything* is or will be available in the Cloud, technology will necessarily be used to locate and manipulate content. Some of it seems benign, like a Google search results page, but even that implies a neutrality and efficiency of the results. Google already uses AdWords to complement “natural” search results. Should neutrality (or the “naturalness”) of search results be regulated? If so, how? Some might suggest that having multiple intermediaries might be a better option, trusting competition to lead users to intermediaries offering better results.⁷⁵

Several technologies used to manage our relations with the Cloud are not quite as benign as search engines. In fact, some are inherently problematic. First, as Amazon and Google users know all too well, *the Cloud knows you*. And the more one uploads to and interfaces with the Cloud, the more it knows you. Facebook and LinkedIn suggest “friends” and contacts. Is this a problem or a positive development? Clearly, the major users of this knowledge are providers of targeted advertising. Whether getting more targeted ads is a benefit for consumers is debatable. One can see the advantage of being informed of the availability of a new product. By the same token, this may lead to overspending. This is mostly beside the point, however. The real concern is that when those technologies suggest content, they may interrupt a chain of events (initiated by a user’s search) that might have led one to a completely different place. They reinforce the past but at the potential expense of different futures. When Amazon suggests a book for instance, one may end up buying that book and not wander in a different cultural “direction.” Then again, it may be that those suggestions will incrementally broaden a consumer’s cultural geography. Whether this is a positive development overall should be tested empirically. However, because “Cloud suggestions” (and default choices made for users) are based on one’s past actions and preferences, intuitively they will tend to reinforce what one already knows and who that person is rather than

75. See Samuelson, *supra* note 60.

allow one to take a different path. In other words, they might expose each of us to “more of the same.” The risk is that this may, in time, impoverish the social and cultural discourse.⁷⁶ The undeniable fact remains, however, that when every bit of culture and digital content is in the Cloud, the key will be to locate and access content that one is interested in. In McLuhanesque terms, intermediation is the new content, and intermediates the guardians of the Cloud.

The commercial paradigm of the Cloud (that lawmakers and many others, including the music industry still do not get) is not one of scarcity of supply. It is, in fact, exactly the opposite.⁷⁷ What is happening is a shift similar to the shift from mechanical to quantum physics. Let us call it “quantum market economics” for the “content industries.” The first law of the new environment is that *the value of an information object on the Internet is not derived from its scarcity but rather from the fact that those who value it most will find it*. The preference-dictating algorithms mentioned above are based on a user’s past. They assume that a user will value what she valued in the past and keep her in your “value zone.” However, serendipitous Cloud wanderings—a la Thoreau in his woods—might have led her to value cultural products she did not know. The Cloud, like a park ranger, wants you to stay on the marked path, where it knows you.

This is not necessarily bad. In a world where everything is in the Cloud, the inescapable truth is that the value of a particular cultural artifact is an amalgamation derived from the number of users connected with that content they themselves value individually. Network effects create huge value. And the individual connections that lead to the emergence of Cloud value are established by the intermediaries. Whether they are benign and “natural” in establishing those connections or whether they will guide you according to (completely understandable) revenue-maximizing goals, intermediaries will become the true

76. See Gervais, *supra* note 53.

77. See Daniel J. Gervais, *The Role of Copyright Collectives in Web 2.0 Music Markets*, in THE SELECTED WORKS OF DANIEL J. GERVAIS 1, 1–2 (2007), available at http://works.bepress.com/cgi/viewcontent.cgi?article=1010&context=daniel_gervais (“While opinions and studies—both the data they use and their analysis—are open to disagreement, the fact remains that the laws of physics that applied to the sale of physical copies of records, CDs and the like do not seem to apply to the Internet, which seems counterintuitive to market experts trying to apply traditional rules such as scarcity of supply. There is no scarcity of supply here. Nor are traditional laws of pricing of physical goods directly applicable because the market for authorized music is competing with ‘free.’ What is needed, then, is a shift similar to the shift to ‘quantum physics.’ Let us call it ‘quantum market economics’ for the music industry. The first law of this new environment, as I have argued in a number of past publications, is that value of an information object on the Internet is not derived from its scarcity but rather from the fact that those who value it most will find it. This explains the tremendous value of companies like Google, at least as far as its traditional role as ‘finder’ of information objects is concerned.”).

Guardians of the Cloud, the Global Meme Factory, and our culture.

There are other challenges ahead. Let us take a less US-centric perspective. In the United States, while we may accept a certain degree of governmental control and monitoring subject to court supervision, we tend to assume freedom of speech is a key value in the policy equation of Cloud control. That is gravely mistaken. The Cloud is at risk of control by authoritarian governments. The Internet, whether structured as a pure communications network or designed as a Cloud, is intensely political. In fact, in the words of Evgeny Morozov, “information also becomes the most politicized of global commodities.”⁷⁸ China’s attempts to control the Cloud are well documented.⁷⁹ In Russia, social networking sites are used to criticize political leaders.⁸⁰ And Egypt and other Arab countries recently tried to gain control of what could be transmitted. The list is long and will get longer. Has the Cloud added resilience to information? While information stored on a personal computer is at risk and evanescent, once firmly rooted in the Cloud, information is much harder to delete. Law may seem powerless, but technology that prevents access might achieve a similar result. If the Cloud does prove easier to control than the current Internet, we will have taken an important step backwards for freedom of speech.

But for the average Cloud user, the most direct form of regulation might well be intellectual property and copyright *primus inter pares*.

D. Copyright & The Cloud

Copyright emerged as a policy lever to organize the market for books. Its first modern incarnation is probably the Statute of Anne of 1710.⁸¹ The explanation is simple enough: If a publisher can just sit and wait to see which new books do well and then copy them, the incentive to invest in production of new books is diminished and cultural output may suffer.⁸² A similar reasoning applies to music and to several other products. A film studio might want to decide through which medium a film is to be released and when.⁸³ The paradigm of this type of cultural

78. Evgeny Morozov, *The 20th Century Roots of 21st Century Statecraft*, FOREIGN POLICY (Sep. 7, 2010), http://neteffect.foreignpolicy.com/posts/2010/09/07/the_20th_century_roots_of_the_21st_century_statecraft.

79. See Jonathan Zittrain & Benjamin Edelman, *Documentation of Internet Filtering Worldwide*, BERKMAN CENTER FOR INTERNET & SOCIETY, <http://cyber.law.harvard.edu/filtering> (last visited Nov. 19, 2011).

80. NIK GOWING, *SKYFUL OF LIES AND BLACK SWANS: THE NEW TYRANNY OF SHIFTING INFORMATION POWER IN CRISIS* (2009).

81. See MARK ROSE, *AUTHORS AND OWNERS: THE INVENTION OF COPYRIGHT* 36 (1993).

82. See Samuelson, *supra* note 60.

83. See BRUCE M. OWEN & STEVEN S. WILDMAN, *VIDEO ECONOMICS* 29-30 (1992).

commerce is the well-documented phenomenon of scarcity: New products are relatively scarce and must be obtained from an authorized source.⁸⁴

It seems self-evident (at least to observers not part of the entertainment industry) that the Cloud is not the commercial equivalent of selling physical goods. Yet, laws are called upon to maintain the scarcity paradigm. Let us consider why this makes little sense. In a store, one browses a finite selection. The store typically sells a limited number of categories of goods. There is usually signage to help the consumer make her selection. Advertising and product placement may be used to “guide her hand.”

Some of this is replicated online, of course.⁸⁵ However, the impact is different, and so should the metrics be. Aggregate (commercial) value on the Internet, as I noted in the previous section, is derived from connecting people with content they value individually. An MP3 downloaded on a computer may be counted as a form of piracy worth \$2, but the reality is that *the user assigns the value*. She may have downloaded a song “just because” and never listened to it. Perhaps it was recommended by a friend, downloaded, listened to once and then quickly forgotten. This music has little or no Cloud value if all users treat it that way and if those who might like it are not connected to it. Conversely, if the Cloud can connect a user with a song (and/or an artist)—whether from down the street or the other side of the planet—value flows to both the content provider and the user as that user becomes a fan and value-generator. She may buy music, tickets, merchandise, and ultimately become a social site spokesperson for the artist. Then, and only then, does the music have “Cloud value.”

E. *International Intellectual Property Rules*

The main set of international intellectual property rules are contained in the TRIPS Agreement.⁸⁶ The Agreement was part of a package of trade rules signed at Marrakesh in April of 1994. It entered into force on January 1, 1995.⁸⁷ It was negotiated between 1986 and 1994, though mostly completed by the end of 1991.⁸⁸ The World Wide

84. See Claus Thustrup Hansen & Søren Kyhl, *Pay-Per-View Broadcasting of Outstanding Events: Consequences of a Ban*, 19 INT'L J. INDUS. ORG. 589, 601-04 (2001).

85. Online advertising is at least as prevalent as it is in other media.

86. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, available at http://www.wto.org/english/docs_e/legal_e/27-trips.pdf [hereinafter TRIPS Agreement].

87. Overview: The TRIPS Agreement, WORLD TRADE ORGANIZATION [WTO], http://www.wto.org/english/tratop_e/trips_e/intel2_e.htm (last updated 2011).

88. See generally DANIEL GERVAIS, *THE TRIPS AGREEMENT: DRAFTING HISTORY AND*

Web emerged in the public sphere in 1993 with the release of the Mosaic browser.⁸⁹ It was not until a few years later—some might say not until the Napster lawsuits—that the size of its potential impact on the market for copyrighted goods became fully visible.⁹⁰ It is not surprising, then, that TRIPS is not expressly equipped to deal with the Internet.

The World Intellectual Property Organization (WIPO) tried to fill the gap in December 1996 with the adoption of its two “Internet” treaties.⁹¹ The treaties provide a right of making available, but also, and more importantly it seems, a right to prevent the circumvention of technological protection measures (TPMs) used to restrict use of copyrighted content.⁹² In the United States, the treaties were implemented by the Digital Millennium Copyright Act (DMCA).⁹³

Part of the negotiated DMCA package was that Internet Service Providers and search engines would not have liability for letting users access infringing material.⁹⁴ The regulatory effort here has a clear direction: limit access and use. In other words, the aim was to reinstate the scarcity paradigm for industries that still count “units” sold.⁹⁵

There is little doubt that the best way to maximize value on the Internet is *not* to control individual uses. But old habits indeed die hard, and this one (control) may not die—at least not until the industry itself is gone. A number of important stakeholders, including songwriters, seem to agree.⁹⁶ The optimal solution self-evidently would leverage network

ANALYSIS 11-27 (3d ed. 2008).

89. See J.R. OKIN, *THE INTERNET REVOLUTION: THE NOT-FOR-DUMMIES GUIDE TO THE HISTORY, TECHNOLOGY, AND USE OF THE INTERNET* 110 (2005).

90. See, e.g., *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001).

91. WIPO Copyright Treaty, Dec. 20, 1996, S. Treaty Doc. No. 105-17 (1997), 36 I.L.M. 65 (1997) [hereinafter WCT], available at http://www.wipo.int/treaties/en/ip/wct/trtdocs_wo033.html; WIPO Performances and Phonograms Treaty, Dec. 20, 1996, S. Treaty Doc. No. 105-17 (1997), 36 I.L.M. 76 (1997) [hereinafter WPPT], available at http://www.wipo.int/treaties/en/ip/wppt/trtdocs_wo034.html.

92. WCT, arts. 8 and 11; WPPT arts. 10, 14 and 18.

93. Digital Millennium Copyright Act, 17 U.S.C. §§ 1201-05 (2004). On the intent, see S. Rep. No. 105-190, at 2 (1998).

94. See JESSICA LITMAN, *DIGITAL COPYRIGHT* 127-45 (2d ed. 2006). Services hosting content that a copyright holder considers infringing would, however, have to set up a contact point for notices sent by the copyright holder to take down such content. See 17 U.S.C. §§ 1201-05.

95. The *Recording Industry in Numbers 2010* report published by the International Federation of the Phonographic Industry [hereinafter IFPI] still considers units sold as a key statistical component of the report. For example, the page on Belgium shows a decline from 2005 to 2009 from 14 to 10.7 million CD “units.” See IFPI, *RECORDING INDUS. IN NOS. 2010* 31 (2010), available at <http://www.ifpi.org/content/library/RIN-samplepage-2010.pdf>.

96. See *The Songwriters Ass’n of Canada’s Proposal to Monetize the Non-commercial Sharing of Music*, SONGWRITERS ASSOCIATION OF CANADA, <http://www.songwriters.ca/proposaladetailed.aspx> (last visited Nov. 19, 2011). In parallel, one of the four remaining labels, EMI, was taken over by a creditor. See Dana Cimilluca & Ethan Smith, *Citigroup Takes Control of EMI*, WALL ST. J., Feb. 2, 2011, at B6, available at

effects and maximize value by maximizing connections between content and those who value it, which includes allowing no-value or little value connections to be established probably as a multiple of the connections that do bring value. In very concrete terms, it may be that ten people will download a file for one who will truly appreciate it. But to find that one, it is often necessary to allow the ten. This is hardly reconcilable with copy-control models trying to replicate physical scarcity of supply online.

Yet many sectors of the entertainment industry still aim to convince policy makers to stamp out “piracy,” which seemingly includes every unauthorized access or download of copyrighted content. Unfortunately, a lot of this piracy is without actual value to anyone. It is also piracy based on the current model of downloads and storage on one’s computer.⁹⁷ This may disappear both because devices may have less storage—this is in all likelihood an epiphenomenon—and because the Cloud is designed to provide constant access to “everything,” in a world that is always online, thus avoiding the need for local copies. We are not there yet, and “Internet everywhere” is far from being a reality. But access is also possible using cell phones and other proprietary networks. As we move away from an open architecture based on the Internet Protocol to more proprietary access and access on demand as a rule, it will become easier for the entertainment industry to live its ultimate dream—complete “fared use.”⁹⁸ A dream in which each use is ultimately linked to a micro-payment or possibly part of a contractually and technologically cabined subscription-based pricing model.

Ironically, the repeated suggestions to license file-sharing in an environment that the music industry could have set up and loosely controlled, but which it has continuously scorned by the recording industry, will likely be the outcome. But it will come with control wrestled away from the content provider and into the hands of the Cloud’s real guardians, the intermediaries. Google Music is coming.⁹⁹

An open question is whether users—especially those under-30 most of whom have learned to access music and a number of other cultural products via peer-to-peer networks *first*—will easily abandon the “try to

<http://online.wsj.com/article/SB10001424052748703445904576118083710352572.html>.

97. A basic computer now sells with somewhere between 500 GB and 1 TB of storage. Even in CD quality format, this allows for the storage of tens of thousands of songs.

98. See Tom W. Bell, *Fair Use vs. Fared Use: The Impact of Automated Rights Management on Copyright’s Fair Use Doctrine*, 76 N.C. L. REV. 557 (1998).

99. Actually it started as an experiment in China, but in a market with basically no authorized market and still requiring behavior modifications. Not surprisingly, it was not a huge success. See David Barboza & Brad Stone, *China, Where U.S. Internet Companies Often Fail*, N.Y. TIMES, Jan. 15, 2010, at B1, available at <http://www.nytimes.com/2010/01/16/technology/16failure.html>.

see if you like” model and willingly jump onto an obsolete bandwagon; namely, a world in which what matters is not how many people enjoy a particular song or artist but how many copies of a file are in existence at any point in time. They may not, and oddly enough personal computers and other IP-based (i.e., non-proprietary) devices may be used more because they can defeat a pure fared use world. By the same token, device manufacturers might respond to that demand and provide devices that do not force users to take steps to continue to enjoy cultural products the way they want.

There is now an effort afoot to multilateralize the DMCA, increase penalties, and generally add layers of enforcement access and use controls. “Newspaper taxis . . . Waiting to take you away,” as the Beatles might say.¹⁰⁰ But, the song continues, “[c]limb in the back with your head in the clouds, [a]nd you’re gone.”¹⁰¹ This is an apt metaphor. The old copyright paradigm is perhaps best epitomized by fast-disappearing newspapers.¹⁰² But climb in the Cloud, and you’re gone. Gone into a different access paradigm, one in which trying to connect to what matters is what matters.

These efforts apparently include an attempt to rewrite the rulebook on ISP and search engine safe harbors. This attempt, the Anti-Counterfeiting Trade Agreement (ACTA), is the application of Statute of Anne scarcity to a 21st century Cloud where a copyright holder should seek to maximize access (and the number of people who pay, in one form or another) for such access, and not to minimize the number of “units” accessed without payment, because that is not how value is derived.

The futility of this attempt (so far) as an empirical matter is compounded by the fact that access restrictions tend to reduce commercial value in the Cloud. The music industry’s attempt to funnel every music lover to a single, TPM-restricted download is clearly not optimal. In fact, any major behavior change such as dropping peer-to-peer clients for systems imposing controls overuse and offering a more limited repertory have not done well. The industry’s bottomline is exhibit 1.¹⁰³

The Cloud is a repository of content and users will want access to that content whenever and on whatever device they happen to have at

100. THE BEATLES, *Lucy in the Sky with Diamonds, on SGT. PEPPER’S LONELY HEARTS CLUB BAND* (Capitol Records 1990) (1967), available at <http://www.sing365.com/music/lyric.nsf/lucy-in-the-sky-with-diamonds-lyrics-thebeatles/268f467b6ecc8c7148256bc20013fdb3>.

101. *Id.*

102. I am still amazed that based on our anecdotal data, law students think of the “New York Times” mostly as a web site and source of information, not as physical thing (paper).

103. See IFPI, *IFPI DIGITAL MUSIC REP. 2011* (2011), available at <http://ifpi.org/content/library/DMR2011.pdf>.

that point in time, not units to store. They will want to experience as many of the cultural products they value as possible, and they likely will value intermediaries who lead them to more (in spite of the limiting effects that this may have as discussed earlier). Cultural industries that will do well in the Cloud will be Sherpas, not park rangers.

Intellectual property rules make this possible, but the solution is licensing and more access, and enforcement limited to professional pirates.

Recent efforts such as the Anti-Counterfeiting Trade Agreement (ACTA), are not necessarily negatives; it all depends on how they are used and implemented.¹⁰⁴ ACTA may be, however, a poster child for a view of how the Cloud should develop, tailored to a desire to control access to cultural products as “controlled units,” instead of acknowledging that the Cloud is amorphous and ultimately, everywhere. Control makes little sense, at least if the aim is to maximize income. The Cloud is a formidable distribution vector. Value will not be derived from counting (or limiting units) but by connecting people, wherever they may be, to content they value. Each connection adds value.¹⁰⁵ Deleting or limiting copies (i.e., replicating scarcity of supply) in such an environment seems an anachronism at best. Yet it arguably informs current attempts to beef up enforcement against individuals and, more tellingly, intermediaries.

At this critical juncture, it would be unfortunate if a major policy development effort were to be based on a misguided strategy with erroneous assumptions about what motivates consumer behavior. Policy makers cannot be rainmakers in the age of the Cloud. ACTA cannot be an alternative to a real discussion on optimal access to cultural products and ultimately a stand-in for new thinking on business models.

III. PRIVACY

A. *Personal Information in the Cloud*

Think about the last time you sent an email from your web mail account to a friend or family member, or the last time you logged onto a banking website to check your account balance, or even the last time you

104. On ACTA, see ACTA Fact Sheet, OFFICE OF THE U.S. TRADE REPRESENTATIVE (Mar. 2010), <http://www.ustr.gov/acta-fact-sheet-march-2010> (last visited Nov. 19, 2011).

105. The so-called network effects. Those effects are “a characteristic of a product by which its value to the consumer is defined or enhanced by virtue of other consumers adopting the same product. The identifying characteristic of a product with network effects is its ability to connect one consumer, or “user,” to other users of the same product.” John McGaraghan, *A Modern Analytical Framework For Monopolization In Innovative Markets For Products With Network Effects*, 30 HASTINGS COMM. & ENT. L.J. 179, 189 (2007).

shared the family pictures you just took online so your family could download them. All of these tasks that have become so mundane to so many people take advantage of the power of Cloud computing to connect you to the people and sites you requested. But what happens to the information when it disappears into the Cloud? Where are your passwords and your account numbers saved? Who can access them and what do they do with them? Can you delete the information, in the sense that no one will be able to access it in the future?

Cloud computing has become such a vital part of many peoples' lives and information about people has become a commodity in its own right. Companies commanding vast portfolios of data about Internet users that account for large chunks of their worth, are using information in the Cloud to advertise and market in an increasingly focused way.

In its earliest description by Justices Warren and Brandeis, privacy was described as a "right to be let alone."¹⁰⁶ If one did not share a bit of information, it was private. If one did tell someone, then that information basically became public. This simple binary analysis is not wrong and probably fit quite well into the society of the day. Cameras and telephones were relatively new advancements, and the main method of recording or sending any sort of information was by handwritten letter or telegraph. It is easy to argue that that a letter contained in a sealed envelope and sent to a certain individual is of a private nature and should not be read by others without permission. The Justices could not have guessed to what degree the transportation of information would change over the intervening century, or the extent to which information is stored, used, and manipulated.

The dramatic increase in the complexity of the communications systems between then and now has led to a corresponding increase in the level of difficulty in ascribing a specific meaning to the notion of privacy. At the very least, the binary approach is now a range of possibilities; black and white has been replaced by shades of gray. With the advent of the Cloud and the associated culture of accessing everything from shared, anonymous servers, privacy is no longer a matter of keeping information private. The servers are not private; they are operated by providers of Cloud services. Information is thus "disclosed" to the Cloud. What happens on the Cloud is a matter of contract law, of course, but also of the application of statutory mechanisms to servers which cannot claim private status, unlike a PC in one's home or a device in one's pocket. The Cloud necessarily implies relinquishing some degree of privacy protection.

As a technical matter, providers of Cloud services can probably

106. Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193, 193 (1890).

access any material uploaded to the Cloud. As a legal matter, privacy is about control over who gets access to what information. Put differently, privacy is about controlling what is done with information after it is released to the Cloud. “When we complain about infringements of privacy, what we really demand is some measure of control over our reputation in the world. Who should have the power to collect, cross-reference, publicize, or share information about us, regardless of what that information might be?”¹⁰⁷

As it currently stands, many providers of Cloud services obtain a license (which users accept by clicking but perhaps also without reading) to use the personal information uploaded to the Cloud in exchange for access to free services. These services typically support their business through advertising. They use personal information to target ads, ensuring the maximum amount of business for advertisers. We are not suggesting that there is something inherently wrong with this system, assuming that the companies are properly licensed to use the consumers’ personal information in that manner. In fact, for many consumers, this may be a good deal. We are suggesting, however, that the permanency of the information uploaded to the Cloud and the unforeseen ways in which it may be used do constitute a significant potential downside.

Basically, the problem is that the consumers are relinquishing control of their personal information, and of their online identity, to these companies. They may thus lose the ability to define their appearance to others on the Internet and the related ability to maintain and define their individuality. That may seem extreme given the pervasiveness and success of Cloud services, but it is important to remember how valuable the vast quantities of information that advertisers, employers, and other entities have access to, and how easy it is to abuse that information. Once personal data is in the Cloud, there is no way to know with certainty where it is stored, which laws apply to that storage, and who might see it. In certain cases, it may simply not be possible to truly delete the information.¹⁰⁸

The fact that average users do not know how personal information is used after it enters the Cloud demonstrates clearly the outdated nature

107. Siva Vaidhyathan, *Naked in the ‘Nonopticon’*, CHRON. HIGHER EDUC., Feb. 15, 2008, at B7, available at <http://chronicle.com/article/Naked-in-the-Nonopticon/6197>.

108. Due to the nature of the Internet, it is almost trivially easy for others to save and hold onto any information that appears on the Internet publically. Every time a website is accessed, that person is downloading the website onto their own computer (usually into a “cache”). This means that the moment a piece of information goes public, the owner instantly loses the ability to ensure the complete deletion of the information. There is even a site (The Wayback Machine at www.archive.org) that archives websites from the past, allowing users to browse through billions of websites that may have been taken down/destroyed over a decade ago by the owners.

of the dichotomous theory of privacy previously discussed. Of course, a Cloud service user often releases personal information knowing that it will be considered more or less public.¹⁰⁹ An argument can be made that the risks of disclosure were known and assumed. However, this is not an ideal result for the user because having a presence in the Cloud (such as a Facebook page) is important for many users and probably unavoidable for some, and as such the “choice” appears rather theoretical. Yet annihilating the protection of users’ data could have a chilling effect on the use and development of the Cloud. This is a two-way-street and both sides are pulling towards greater release of personal information. There is demand for personal information from users of social sites, and providers of Cloud services want more of that information to target their advertising and other services. At the level of the trees, it seems no one has a strong interest in protecting privacy. At the level of the forest, however, the longer term impact of jettisoning large swaths of protection of personal information online means that that protection is basically abandoned because “online” is increasingly synonymous with “everything.”

There are a few unavoidable Cloud providers such as Facebook and major email and instant messaging providers. Their services have become so pervasive and heavily used that their position in the bargain for information completely overpowers the individual user. With hundreds of millions of users apparently unconcerned about the protection of their personal information, giants like Google and Facebook have no real reason to support policies that give users control over their information. Users concerned about their personal information are left with no good answer. Either they don’t use the service and risk being left out in the cold, or they use the service and trust the provider not to use their information in some undesirable way. As a matter of contract law, the differential in bargaining power arguably affects the validity of major waivers of protection in license and other end-user agreements.

For users who decide to trust the provider, what happens when a user wishes to quit? Upon doing so, it is up to the user once again to trust that the provider will delete her information. The opposite may be true in other cases (bank, online brokerage). Here the user may wish that the provider retain the information (e.g. for a possible tax audit). Though this is anecdotal and would require empirical verification, we have not seen clear obligations undertaken by providers of services such as online

109. While the data may be difficult to gather, it would be useful and interesting to find out empirically what percentage of Cloud service users actually read the privacy agreements and understand the extent to which their personal data is being used by service providers. This study would likely find that the majority of people have a limited understanding.

email and messaging, or brokerage services either, to completely delete or conversely retain personal information for a specific period of time after the user quits. This may constitute a normatively undesirable incentive for users to not change providers and thus retrain competition.

Another example of the use of personal information by a service provider is in search algorithms. As in the targeted advertising context, a number of search engines gather information about a user based on previous searches and other information they may have on that user, such as location and age. The search engine uses that information to display results that the person is more likely to consider a match. This practice and the resulting efficiency gains seem desirable for the most part. However, it is fairly easy for search engines to abuse this power.

Due to the complexity of the Cloud infrastructure, privacy cannot be treated as a private/public dichotomy. Privacy is measured on a spectrum of information accessibility. We suggest that users, that is, us, should have ultimate control over as much of that information and its access and storage as possible. Users should have access to methods of obtaining knowledge about the existence and use of personal information as well as recourse for potential abuses. Current U.S. law provides very few of those safeguards.

IV. PROTECTING PERSONAL INFORMATION IN THE CLOUD

A. *Using Currently Available Means*

The Fourth Amendment protects people and their property “against unreasonable search and seizures.”¹¹⁰ This includes a number of rights first recognized by the Supreme Court in *Griswold v. Connecticut*.¹¹¹ The opinion of the court in *Griswold* described the existence of the penumbral right to privacy:

The foregoing cases suggest that specific guarantees in the Bill of Rights have penumbras, formed by emanations from those guarantees that help give them life and substance Various guarantees create zones of privacy. The right of association contained in the penumbra of the First Amendment is one, as we have seen. The Third Amendment in its prohibition against the quartering of soldiers ‘in any house’ in time of peace without the consent of the owner is another facet of that privacy. The Fourth Amendment explicitly affirms the ‘right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures.’ The Fifth Amendment in its Self-Incrimination Clause enables the citizen

110. U.S. CONST. amend. IV.

111. *Griswold v. Connecticut*, 381 U.S. 479 (1965).

to create a zone of privacy which government may not force him to surrender to his detriment. The Ninth Amendment provides: ‘The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.’¹¹²

While this penumbral right is used to defend privacy and protect personal information, the Constitution is only controlling for situations where the *government* wants to infringe on the individual’s privacy. It does not directly govern conflicts between two private parties. Due to this limitation, the protection of the privacy of individuals had to develop down other avenues, including both statutes and case law.

Fourth Amendment jurisprudence applied to a technology allowing the capture and storage of personal information probably began with *Katz v. United States*.¹¹³ Contrary to the 1928 case *Olmstead v. United States*, *Katz* held that wiretapping (access but also possible taping) a phone conversation without the consent of the participants constituted a search.¹¹⁴ *Katz* was extremely important as a first step toward the proper treatment of electronic communication as a form of private conversation. Notably, *Katz* is also the first case in which the phrase “reasonable expectation of privacy” is used, which appears in a concurrence by Justice Harlan.¹¹⁵ This phrase would become an important test used for determining whether a communication should be considered private or not, and it is still affecting privacy jurisprudence today.

The Supreme Court was not alone, however, in attempting to protect the privacy rights of citizens. Congress adopted a number of statutes in order to secure private communications against intrusion. The most recent is the Electronic Communications Privacy Act of 1986 (ECPA).¹¹⁶ This Act is arguably the most important statute protecting the privacy of personal information on the Internet. The goal of the statute is to protect what it deems to be electronic communications from unwanted interception by both state and private actors. Due in large part to the complexity of the issues, difficult questions about the exact scope of the statute have been decided by the courts. Most of these cases dealt with government interception of communications for the purposes of criminal prosecution, rather than privacy issues between private parties. However, many of the holdings illustrate the scope of protection that the ECPA provides.

The law has three different parts. Title I of the ECPA (Wiretap Act)

112. *Id.* at 484.

113. *Katz v. United States*, 389 U.S. 347 (1967).

114. *See generally id.*; *Olmstead v. United States*, 277 U.S. 438 (1928).

115. *Katz*, 389 U.S. at 360 (Harlan, J., concurring).

116. *See* Electronic Communications Privacy Act of 1986, 18 U.S.C. §§ 2510-22 (2006); 18 U.S.C. §§ 2701-12 (2006); 18 U.S.C. §§ 3121-27 (2006).

protects communications in transit.¹¹⁷ Title II (Stored Communications Act) protects the storage of electronic information.¹¹⁸ Title III (Pen Register and Trap and Trace Statute) protects dialing, routing, or addressing information that is not part of the communications but can reveal which parties are communicating.¹¹⁹ We will focus on the first two titles because they are directly involved in the protection of personal information against unauthorized access and storage.

The Wiretap Act protects against both government and private intrusion into electronic communications. The protection is strong in most situations. Access requires a search warrant and any evidence obtained in violation of this part of the Act is subject to exclusion in court proceedings. While the Act provides a powerful tool for protecting privacy, there is a significant degree of confusion concerning its application to communications through the Cloud. Additionally, the statute essentially protects citizens against the use of their personal information in court if illegally obtained and against access to this information by wiretapping, but it does not protect more generally against access to such information or its use in different contexts.

In trying to decide how the statute might apply to the Cloud, we can start with *United States v. Ropp*.¹²⁰ The defendant was charged with an interception under the Wiretap Act. The defendant had placed a device that intercepted signals from a person's keyboard to their computer. The question was whether the information that was being typed was covered under the Wiretap Act. The question before the court was whether a message that was being prepared (typed) but had not been sent could be considered "in transmission."¹²¹ The court decided that the signals were internal to the computer and not being transmitted "by a system that affects interstate or foreign commerce" as defined in the Wiretap Act.¹²² This holding reflects a key limitation in the coverage of the Act. The opinion of the court mentions that the defendant was clearly "engaged in a gross invasion of privacy" by his actions, but the court could find no hook in the statute to hang his actions on.¹²³

Similarly, in *United States v. Scarfo*, the court determined that keystroke signals were not an electronic communication transmitted under the Wiretap Act.¹²⁴ In that case, the FBI had installed a keystroke logger which only logged keystrokes when it detected that the computer

117. *Id.*

118. *Id.*

119. *Id.*

120. *United States v. Ropp*, 347 F. Supp. 2d 831 (C.D. Cal. 2004).

121. *Id.* at 835.

122. *Id.* at 837.

123. *Id.* at 838.

124. *United States v. Scarfo*, 180 F. Supp. 2d 572 (D.N.J. 2001).

was not accessing a network.¹²⁵ This was a transparent effort to ensure that the rules of transmission under the Wiretap Act would not apply to the act of tapping the computer.¹²⁶

By contrast, in *United States v. Councilman*, the defendant was intercepting emails that transited on a server he controlled.¹²⁷ The defendant argued that the emails were being stored, not transmitted, when he intercepted them, so the Wiretap Act did not apply to his actions.¹²⁸ The court disagreed and said that the emails were protected while in storage because storage was incident to a transmission.¹²⁹

O'Brien v. O'Brien is another case that tests the limits of what can be considered a transmission.¹³⁰ In that case, a Florida state statute that was essentially the same as the federal Wiretap Act was treated in the same manner.¹³¹ Mrs. O'Brien had installed software to monitor her husband's instant messaging and which stored the messages so that she could read them at a later date.¹³² The court had to decide whether the messages were being intercepted or just being observed after they had gone into storage on the computer.¹³³ The wife argued the latter, but the court found against her, finding that her actions had violated the Wiretap Act.¹³⁴ While the messages were being transmitted virtually instantly, the fact that the software was copying the messages contemporaneously with the transmission meant that they were being intercepted in violation of state law, which was similar to the Wiretap Act.¹³⁵

Finally, in *United States v. Jones* the court held that text messages held in storage were electronic communications not protected under the Wiretap Act because they were no longer in transmission.¹³⁶ This case helps to show where the Wiretap Act stops and where the Stored Communication Act begins. This line is important because the Stored Communications Act does not offer the same protection as the Wiretap Act.

As noted already, the Stored Communications Act (SCA) is the second part of the ECPA.¹³⁷ The coverage of this Act is slightly wider in scope than the Wiretap Act, as it potentially protects almost any sort of

125. *Id.* at 574.

126. *Id.* at 582.

127. *United States v. Councilman*, 418 F.3d 67 (1st Cir. 2005).

128. *Id.* at 71.

129. *Id.* at 79.

130. *O'Brien v. O'Brien*, 899 So.2d 1133 (Fla. Dist. Ct. App. 2005).

131. *Id.* at 1134.

132. *Id.*

133. *Id.*

134. *Id.* at 1137.

135. *Id.*

136. *United States v. Jones*, 451 F. Supp. 2d 71, 90 (D.D.C. 2006).

137. Stored Communications Act, 18 U.S.C. §§ 2701-2712 (2006).

electronic communication that is in storage. This covers nearly all information in the Cloud that is no longer in transit from sender to recipient. This large coverage is tempered by much weaker protection than is generally provided by the Wiretap Act. Under the SCA, stored communications lack some of the warrant protection that in-transit communications enjoy. The statute does provide for a criminal punishment in the case of unauthorized access of communications stored by certain types of facilities.¹³⁸ The statute describes two different types of facilities with different rules for the purposes of the government gaining access to stored data in those facilities. An “electronic communications service,” or ECS, is defined as “. . .any service which provides to users thereof the ability to send or receive wire or electronic communications.”¹³⁹ A “remote computing service,” or RCS, is defined as “the provision to the public of computer storage or processing services by means of an electronic communications system.”¹⁴⁰ The difference between these two types of systems reflects the law’s desire to lower privacy protection for communications away from the moment of transmission. The ECS is the service that grants the user the ability to send the messages. It is the RCS that is responsible for storing or processing by using an ECS. Not surprisingly, the protection of RCS stored communications is weaker. Communication stored by an ECS is protected for up to 180 days by warrant requirement against government intrusion, while communication stored within an RCS only requires a subpoena or court order with prior notice to the user or a warrant with no prior notice to the user for the government to obtain access.¹⁴¹

In *Quon v. Arch Wireless*, the Court had to draw a distinction between ECS and RCS.¹⁴² A police officer was using his work pager to have personal conversations, and the wireless carrier had released transcripts of the messages to the city.¹⁴³ If the company was an RCS, then they were within their rights to release the transcript, but if they were an ECS, they violated the SCA by releasing the messages to someone who was not one of the parties to the messages without a

138. *See id.* § 2701(b).

139. *Id.* § 2510.

140. *Id.* § 2711.

141. *Id.* § 2703.

142. *Quon v. Arch Wireless Operating Co.*, 529 F.3d 892 (9th Cir. 2008), *rev'd and rem'd sub. nom.*, *City of Ontario, Cal. v. Quon*, 130 S.Ct. 2619 (2010). The Supreme Court did not review the Ninth Circuit’s conclusion concerning the existence of an expectation of privacy messages and mostly discussed the legality of the search, noting that “[t]he Court must proceed with care when considering the whole concept of privacy expectations in communications made on electronic equipment owned by a government employer. The judiciary risks error by elaborating too fully on the Fourth Amendment implications of emerging technology before its role in society has become clear.” *Quon*, 130 S.Ct. at 2629.

143. *Quon*, 529 F.3d at 898.

warrant. The court found that the wireless provider was an “electronic communication service” because it provided users with “the ability to send or receive wire or electronic communications” and that the storage of those messages was just a function of the main goal of sending and receiving them.¹⁴⁴ The court also concluded that an RCS was better represented by a company whose main function was to store or do advanced processing on information given them by their clients, unlike this wireless texting company.¹⁴⁵

Theofel v. Farey-Jones is a controversial Ninth Circuit case that analyzed the term of protection of communications under the SCA.¹⁴⁶ In this case, email was obtained in the course of discovery during litigation with a “patently unlawful” subpoena.¹⁴⁷ The court held that emails stored on an electronic communications service (in this case, it was an Internet Service Provider) are protected by the SCA *indefinitely* if the storage is for the purpose of backup protection.¹⁴⁸ The court said that an “obvious purpose for storing a message on an ISP’s server after delivery is to provide a second copy of the message in the event that the user needs to download it again.”¹⁴⁹ This use of the ISP’s services was found to “literally fall[] within the statutory definition” of the SCA’s coverage.¹⁵⁰ The case demonstrates a certain level of arbitrariness in drawing the line between ECS and RCS facilities. The level of protection seems to hinge on a determination of primary purpose (communication or storage) rather than on the actual service itself.

In the more recent case of *United States v. Warshak*, the Court of Appeals for the Sixth Circuit held that stored email was subject to the same Fourth Amendment protection as phone calls and letters.¹⁵¹ Previously, the government was able to obtain emails with only a subpoena through the SCA, but this case held that strong warrant protection applied to email communication. By extending this right to email *stored* by an Internet Service Provider, the court changed how the SCA is applied and enforced. Whether this opinion will affect how the SCA is applied in other circuits remains to be seen. Possible changes to the SCA might also clarify its application to Cloud services.¹⁵²

144. *Id.* at 901.

145. *Id.* at 902.

146. *Theofel v. Farey-Jones*, 359 F.3d 1066 (9th Cir. 2004).

147. *Id.* at 1071.

148. *Id.* at 1075.

149. *Id.*

150. *Id.*; 18 U.S.C. § 2510(17)(B).

151. *United States v. Warshak*, 631 F.3d 266, 285-86 (6th Cir. 2010). In essence the issue is whether Cloud servers can be analogized to third-party owners of storage or similar facilities. Often this will depend in part on the terms of use of the service.

152. Probably the best example as of this writing is the Bill titled To Improve the Provisions Relating to the Privacy of Electronic Communications, S. 1011, 112th Cong. (2011)

For most consumers, however, the practical protection of their personal information in the Cloud (or absence thereof) is in the license and other end-user agreements. On the positive side, these agreements may give customers an idea of what to expect from the providers to which they are entrusting their personal information. Those agreements suffer from the usual flaws of contracts of adhesion, however. They tend to be more favorable to the provider that prepared the agreement than for the consumer, are typically non-negotiable, use dispute-resolution methods that may not be favorable to the consumer, and often offer very little in the way of methods to recover from damage to privacy, identity, or reputation caused by abuses by the provider. For example, the initial license agreement for Google Chrome web browser gave the company “a perpetual, irrevocable, worldwide, royalty-free, and non-exclusive license to reproduce, adapt, modify, translate, publish, publicly perform, publicly display and distribute any Content which you submit, post or display through” the web browser.¹⁵³ While this has since been modified to be less extreme, it demonstrates the sort of abuse of bargaining position that major Cloud service companies can try to exert over their users.

These agreements are often enforced through and are subject to state consumer protection laws. As such, abuse or misuse of personal information, can be considered a form of unfair or deceptive business practice. A good example of a state statute effectively cabining the ability of an end-user agreement to eliminate personal information protection is California’s Online Privacy Protection Act of 2003 (OPPA). When it went into effect, it forced the providers of Cloud services to publish privacy policies on the front page of their websites as well as requiring that certain elements to be included in the policy. The statute also requires that the website maintain sufficient security measures to keep private information safe from intrusion.¹⁵⁴ While OPPA does not include any specific enforcement provisions, it can be enforced through the Unfair Competition Law, which is substantially equivalent to many states’ unfair or deceptive business practices statutes.¹⁵⁵ OPPA was a good first step and a powerful example to other states. The statute

available at http://thomas.loc.gov/home/gpoxmlc112/s1011_is.xml, introduced by Senator Patrick Leahy (D-Vt) on May 17, 2011. The Bill would amend 18 U.S.C. § 2703 to require a warrant from a court of competent jurisdiction to obtain “disclosure by a provider of electronic communication service, remote computing service, or geolocation information service of the contents of a wire or electronic communication that is in electronic storage with or otherwise held or maintained by the provider.”

153. Online Privacy Protection Act of 2003, CAL. BUS. & PROF. CODE §§ 22575-22579 (2004).

154. *Id.*

155. Unfair Competition Law, CAL. BUS. & PROF. CODE §§ 17200-17209 (2004).

recognized the need of consumers to be (at least) informed about the use of their private information in order to protect themselves from potential abuses. The security requirement is also important. It may allow consumers to trust Cloud service providers, at least until the first major breach. Arguably, it makes that major breach less likely to occur.

The laws on the books provide some degree of protection, at least against wiretapping, and some deceptive practices in end-user agreements. In at least one appellate circuit, email is now protected as letters were when the notion of a reasonable expectation of privacy emerged. Yet neither courts nor legislators have fully embraced the extent to which everything about us will be in the Cloud, and the need for all of us to retain some control over access to and use of that information which, in aggregate, constitutes our societal identity. While the push toward the goal of each individual being in control of their own identity seems to be normatively agreeable, there are still important gaps to be filled and questions to be answered. The next section suggests ways to improve and deepen privacy in the Cloud.

B. Possible Ways Forward to Protect Personal Information in the Cloud

1. Federal Trade Commission Guidelines

In order to decide how best to improve the treatment of the personal information, the Federal Trade Commission studied the behavior of various entities in the United States, Canada, and Europe to see how they collect and use the information. The result is the Fair Information Practice Principles, a list of recommendations that acknowledge the importance of the goal to protect personal information.¹⁵⁶ The recommendations are articulated around five main principles:

- Notice/Awareness
- Choice/Consent
- Access/Participation
- Integrity/Security
- Enforcement/Redress¹⁵⁷

Each of these principles is important in ensuring the protection of personal information, and each can be seen in various parts of the previous section. The notice/awareness principle is demonstrated in the enforcement of California's OPPA in making sure that consumers are

156. Fair Information Practice Principles, FEDERAL TRADE COMMISSION (June 25, 2007), available at <http://www.ftc.gov/reports/privacy3/fairinfo.shtm>.

157. *Id.*

able to easily access a web site's privacy policy before personal information is given up. This principle is vital because it allows consumers to make an informed decision about what happens with their information. This notice should include not just the type of information that will be collected, but also who is collecting the data, what the data will be used for, who the potential recipients of the data are, whether releasing the data is voluntary or required, and finally what steps are taken to protect the data.

The Choice/Consent principle self-evidently goes hand in hand with Notice/Awareness. Once a consumer is aware of a company's policy, he or she can choose whether to agree to it or not. This is subject to the comments on contracts of adhesion, especially in cases where a particular Cloud service is in high-demand.

Access/Participation is not quite as obvious as the previous two principles. Though it is also very important, it is also probably the most often violated principle by Cloud services providers. The principle requires that an individual have "both access to data about him or herself—i.e., to view the data in an entity's files—and to contest the data's accuracy and completeness." A potential violation of this principle emerged in the discussion of targeted advertisements and targeted search results. It is all but impossible to verify what information is being held and used by search providers and their commercial partners.

Integrity/Security is a principle taken for granted by millions of individuals, for example whenever they do their banking in the Cloud. Most Cloud service providers realize that this principle is near and dear to the hearts of their users, and consequently they are likely to take steps (or to be seen to take steps) to provide security. The measures taken can include anything from increasing security of the physical servers to limiting password logins to increasing encryption when information is communicated.¹⁵⁸

Enforcement/Redress is similarly essential because without it, it does not matter whether the provider complies with any other rules that are enforced by the policy.¹⁵⁹ If a consumer has no ability to enforce the

158. The most common form of this sort of protection is the HTTPS protocol (Hypertext Transfer Protocol Secure). The goal of this protocol is to create a secure channel for sending sensitive information over the Internet. It is commonly used for protecting credit card and banking information, but it could potentially be used on any normal website. HTTPS uses a public key/private key encryption scheme that allows the user to confirm that he wants to trust a certain site. After this confirmation, the information sent between the user and the website will be encrypted and safe from any other user who is "eavesdropping" on the network traffic.

159. The age-old debate of whether a law that cannot be enforced is actually a law has some part to play here. Also, the enforcement/redress should be able to properly match the vast difference in bargaining positions between the average user and a large, rich Cloud service provider. The threat of enforcement must be sufficient to influence the service provider not to violate the law.

privacy policy and to obtain redress when it is violated and this violation causes harm, then the policy is toothless as a legal matter. As such, it might be considered advertising (and possibly false advertising) rather than an enforceable contract.

The FTC does offer a forum for complaints against Cloud service providers. The Electronic Privacy Information Center (EPIC) has brought several complaints against various Cloud service providers in recent years, including a complaint against Google.¹⁶⁰ The complaint claimed that Google was misrepresenting the safety and security of information of several of its Cloud service sites, including Gmail, Google Docs, Google Desktop, and Google Calendar. EPIC alleged that, while the website professed the security of the services, there were many flaws that allowed unauthorized users access to documents, exposed user names and passwords to theft, and even security flaws that allowed others full control of a user's system. If these allegations were found to be true, then Google would not be following several different principles including Integrity/Security and Notice/Awareness.¹⁶¹

2. International Considerations

Another tool to look for answers and ideas about ways to protect personal information is to use a comparative approach and observe the laws and practices in other jurisdictions. Europe has a long history of strong privacy protection. Privacy is seen as an extension of the right to respect and personal dignity, consisting of mainly rights to one's image, name, and reputation, a bundle that German legal scholars refer to as the right to *informational self-determination*, that is, the right to control the sorts of information about oneself.¹⁶² This theory of privacy is different than the one applied in the U.S., which promotes privacy as a derivative of the freedom to be left alone, rather than as a matter of personal dignity. We do not suggest that either theory is better. However, the European notion's normative anchors seem deeper and more convincing. It has undeniably resulted in a more unified and focused set of statutes and rules concerning the protection of personal information and makes

160. Mark H. Wittow & Daniel J. Buller, *Cloud Computing: Emerging Legal Issues for Access to Data, Anywhere, Anytime*, 14 J. INTERNET L. 1, 6 (2010).

161. The Federal Trade Commission is still reviewing EPIC's complaint about Google's unfair and deceptive business practices in representations made about their Cloud services. The FTC has stated that the complaint "raises a number of concerns about the privacy and security of information collected from consumers online." See Letter from Eileen Harrington, Acting Dir., Bureau of Consumer Prot., to Marc Rotenberg, President, EPIC; John Verdi, Counsel, EPIC; and Anirban Sen, Fellow, EPIC (Mar. 18, 2009), available at http://epic.org/privacy/cloudcomputing/google/031809_ftc_ltr.pdf.

162. See James Q. Whitman, *The Two Western Cultures of Privacy: Dignity Versus Liberty*, 113 YALE L.J. 1151, 1161 (2004).

protection of foreign-owned information contingent on the presence of acceptable rules in foreign jurisdictions.¹⁶³

It also informed the list of recommendations released in 1980 by the Organization for Economic Co-operation and Development (OECD) on the protection of personal information across borders.¹⁶⁴ This list of recommendations, which was closely mirrored by the FTC's principles, was entirely embraced by the European Union's Data Protection Directive. As such, unlike the FTC principles, the OECD recommendations are law in the 27 member countries of the European Union and any company that wishes to capture and move personal information into or out of a European Union country must abide by these seven principles:

- Notice - Individuals must be informed that their data is being collected and about how it will be used.
- Choice - Individuals must have the ability to opt out of the collection and forward transfer of the data to third parties.
- Onward Transfer - Transfers of data to third parties may only occur to other organizations that follow adequate data protection principles.
- Security - Reasonable efforts must be made to prevent loss of collected information.
- Data Integrity - Data must be relevant and reliable for the purpose it was collected for.
- Access - Individuals must be able to access information held about them, and correct or delete it if it is inaccurate.
- Enforcement - There must be effective means of enforcing these rules.¹⁶⁵

The application of these principles includes American companies, which must abide by the principles under the US-EU Safe Harbor process in order to do business in any EU member country.¹⁶⁶ The European Union has thus taken a stronger stance in supporting the protection of privacy. Arguably, that stance is improving personal information protection in third countries where companies decide to comply with EU rules to be able to do business in the EU and where the

163. See Paul Lanois, *Caught In The Clouds: The Web 2.0, Cloud Computing, And Privacy?*, 9 NW. J. TECH. & INTELL. PROP. 29 (2010).

164. See ORG. FOR ECON. CO-OPERATION AND DEV., OECD GUIDELINES ON THE PROTECTION OF PRIVACY AND TRANSBORDER FLOWS OF PERSONAL DATA (2002), available at http://www.oecd.org/document/18/0,3343,en_2649_34255_1815186_1_1_1_1,00.html.

165. See generally Directive 95/46/EC, available at http://www.cdt.org/privacy/eudirective/EU_Directive_.html.

166. See US-EU Safe Harbor Information, EXPORT.GOV, <http://www.export.gov/safeharbor>; Whitman, *supra* note 162.

EU rules might inspire local legislators.¹⁶⁷ By contrast, privacy protection in the United States seems more fractured and disparate.

CONCLUSION

The Cloud will not replace individual storage of files, including copyrighted material, but much more content will be streamed from the Cloud, and many of the personal files we create and use will be backed up there. The Cloud will be an increasingly appealing alternative to store and access content. This poses two major sets of questions: will the move to a recentralized architecture make control of digital files easier for copyright holders and governments? The Internet was a move from mainframe architecture to a decentralized network of hundreds of millions of computers. We are moving back to a much more limited number of servers, or server farms, owned not by Internet users but by intermediaries. Will privacy rules apply to those servers? Will it be easier to locate and delete copyrighted files? Will this really spur new business models? Those are the issues on which we tried to shed light.

Copyright control may indeed be easier, and recent efforts, such as the Anti-Counterfeiting Trade Agreement, continue to vindicate efforts to prevent any unauthorized access to copyrighted material. Whether this makes sense, as major right holders try to put the brakes on the most powerful distribution network ever invented, is an open question. It is similarly doubtful that copyright holders will regain control of distribution as they had when they were selling “units,” such as compact discs and DVDs. The real control will be in the hands of intermediaries that will determine what you see, or at least suggest what one gets to read, listen to, or watch. Because of the oversupply of information and the finite amount of time one can devote to finding content that one values most, this role will be critical. It also makes the efforts to recreate scarcity using copyright even more strange. In breaking corporate distribution barriers, the Cloud can also empower creators from every country in making their material available and export their cultural memes to others. Business models remain unclear, but if truly successful ones emerge, they will necessarily involve intermediation.

Privacy will perhaps be the biggest challenge. The laws that apply to third party servers, including in terms of obtaining information by simple subpoena with or without the knowledge of the “owner” of the

167. Several non-EU countries have passed or are attempting to pass data protection laws that borrow from the EU Data Protection Directive. These countries include Mexico, *see* The Law on the Protection of Personal Data Held by Private Parties, *available at* http://www.dof.gob.mx/nota_detalle.php?codigo=5150631&fecha=05/07/2010 (web site in Spanish), and Malaysia, *see* Personal Data Protection Act of 2010, *discussion available at* <http://www.bnai.com/Malaysia2010/default.aspx>, as well as others.

information that is disclosed to governments, are nowhere near the level of protection of a personal computer in one's home. As a technical matter, it sounds intuitively obvious that access to a few server farms operated by a number of key intermediaries wishing to maintain good governmental relations is not as secure. Our analysis shows that there are significant gaps in privacy protection and looks at proposed corrective reforms.

**CAN I USE THIS PHOTO I FOUND ON
FACEBOOK? APPLYING COPYRIGHT LAW
AND FAIR USE ANALYSIS TO PHOTOGRAPHS
ON SOCIAL NETWORKING SITES
REPUBLISHED FOR NEWS REPORTING
PURPOSES**

DAXTON R. “CHIP” STEWART, PH.D., LL.M.*

When news breaks about relatively unknown people, news media sometimes turn to social networking sites such as Facebook and MySpace to find photographs of the subject, as was the case with the woman connected to former New York Governor Eliot Spitzer when his name turned up in a prostitution probe. However, posting photos on social media does not make them public domain, and copyright holders may have a claim for infringement for unauthorized use of the photos. This article applies the four-part fair use analysis to such situations to evaluate the validity of that defense for photographs republished for news reporting purposes, and it concludes that fair use likely will not provide a shield in most situations. In situations where news publishers act in good faith and photographs are independently newsworthy, however, the fair use defense is more likely to succeed.

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INTRODUCTION

When the news broke in March 2008 that New York Governor Eliot Spitzer was a client of a prostitution ring, leading to his resignation just days later, it was only a matter of time before the news media uncovered the subject of his extramarital dalliances.¹ Ashley Alexandra Dupré, a 22-year-old aspiring singer who worked for the Emperor's Club V.I.P., drew international attention, and no story was complete without photos of the woman.²

The Associated Press obtained and circulated photographs³ from Ms. Dupré's page on MySpace, a social networking site that allows users to share information and photos with others.⁴ The three photos, each featuring Ms. Dupré's face and one showing her in a bikini, appeared alongside news stories and were credited to MySpace.com.⁵ Other photos of Ms. Dupré appeared as well, including four in *The New York Post* that became "an Internet sensation" and were credited to a photographer at Contact Press Images.⁶ Ms. Dupré, through her lawyer, objected to the use of these photos, claiming that she did not consent to their publication and that their use violated copyright law.⁷

This issue is a vexing one for news media. When news breaks regarding relatively unknown people, the quickest and easiest route to photographs of them may be through social networking sites such as Facebook and MySpace and photo-sharing sites such as Flickr and Twitpic,

1. Michael Powell & Nicholas Confessore, *4 Arrests, Then 6 Days to the End of a Career*, N.Y. TIMES, Mar. 13, 2008, at B1.

2. Serge F. Kovaleski & Ian Urbina, *For an Aspiring Singer, a Harsher Spotlight*, N.Y. TIMES (Mar. 13, 2008), <http://www.nytimes.com/2008/03/13/nyregion/12cnd-kristen.html>.

3. Colleen Long, *Call Girl Laments Use of Exotic Photos*, USA TODAY (Mar. 15, 2008), http://www.usatoday.com/news/nation/2008-03-14-408953834_x.htm.

4. See *About Us*, MYSPACE, <http://www.myspace.com/Help/AboutUs> (last visited Nov. 23, 2011).

5. See, e.g., Kovaleski & Urbina, *supra* note 2.

6. Long, *supra* note 3.

7. Long, *supra* note 3. Ms. Dupré also claimed that publication of the photos invaded her privacy, which is unlikely in that she voluntarily shared the photos on a social networking site, thus removing any reasonable expectation of privacy she may have had in them. The law of privacy and its implications on sharing information on social networking sites has been well-covered elsewhere and will not be explored further in this paper. See, e.g., Brian Kane, *Balancing Anonymity, Popularity, & Micro-Celebrity: The Crossroads of Social Networking & Privacy*, 20 ALB. L.J. SCI. & TECH. 327 (2010) (examining the complications of using classic privacy torts when social networking sites are involved); Mary Graw Leary, *Reasonable Expectations of Privacy for Youth in a Digital Age*, 80 MISS. L.J. 1035 (2011) (arguing that rights to privacy of youth are not adequately protected by current applications of privacy law); Josh Blackman, *Omniveillance, Google, Privacy in Public, and the Right to Your Digital Identity: A Tort for Recording and Disseminating an Individual's Image Over the Internet*, 49 SANTA CLARA L. REV. 313 (2009) (critiquing modern privacy law that does not adequately protect online sharing of information and proposing a new tort to protect against "omniveillance" in a future where everything is recorded and nothing is private).

which allow users to upload and share photographs.⁸ However, the First Amendment does not shield news media from the requirements of copyright law,⁹ and the photographs themselves do not become public domain through the terms of service of social networking sites. In fact, they make it clear that users retain their intellectual property rights in items they upload. For example, Twitpic, the photo-sharing utility of the microblog site Twitter, states the following: “All content uploaded is copyright [of] the respective owners. The owners retain full rights to distribute their own work without prior consent from Twitpic. It is not acceptable to copy or save another user’s content from Twitpic and upload to other sites for redistribution and dissemination.”¹⁰

A recent decision by the federal court for the Southern District of New York in *Agence France Presse v. Morel* applied these terms. That court allowed a copyright infringement case to proceed against news organizations that published photos taken by a freelance photojournalist and posted on Twitpic.¹¹

Facebook’s terms say that the site “respects the copyrights of others, and we prohibit users from uploading, posting or otherwise transmitting on the Facebook website any materials that violate another party’s copyrights.”¹² The terms also include procedures to follow for takedowns un-

8. The title of this article comes from a question the author of this article has heard numerous times while advising student media, including one on deadline as the student newspaper sought photographs of a student’s participation in a Miss America competition that occurred without a student photographer or available wire service photographer present.

9. In 1985, the Supreme Court declined to allow the First Amendment right to publish newsworthy information about public figures to trump the interests of copyright holders: “In our haste to disseminate news, it should not be forgotten that the Framers intended copyright itself to be the engine of free expression . . . we see no warrant for expanding the doctrine of fair use to create what amounts to a public figure exception to copyright.” Harper & Row, Pubs., Inc. v. Nation Enters., 471 U.S. 539, 558-60 (1985). Several scholars have suggested that this decision and subsequent applications got the balance wrong and did not completely remove First Amendment protections for repeating copyrighted speech. See, e.g., Matthew D. Bunker, *Adventures in the Copyright Zone: The Puzzling Absence of Independent First Amendment Defenses in Contemporary Copyright Disputes*, 14 COMM. L. & POL’Y 273, 286 (2009); Kathleen K. Olson, *First Amendment Values in Fair Use Analysis*, 5 JOURNALISM & COMM. MONOGRAPHS 159, 188 (2004). The First Amendment argument, however, bears little on the way courts currently apply fair use analysis to images used for news purposes and thus is not addressed further in this study.

10. *Terms of Service*, TWITPIC, <http://twitpic.com/terms.do> (last visited Nov. 23, 2011). The terms do allow users of Twitpic a non-exclusive license to use photos shared on the site with “permission from Twitpic in advance of said usage,” but secondary users must “attribute credit to Twitpic as the source where you have obtained the content.” *Id.*

11. See *Agence France Presse v. Morel*, 769 F. Supp. 2d 295, 298-99 (S.D.N.Y. 2011). Morel, a freelance photojournalist who took photographs of the earthquake in Haiti in January 2010 and posted them on Twitpic, sued after another man copied and sold rights to the photos to Agence France Press and Getty Images, a licensing company. *Id.* The court made no note of any assertion of fair use by the defendants, instead ruling on motions to dismiss Morel’s claims for vicarious and contributory infringement, among others. *Id.* at 308.

12. *How to Appeal Claims of Copyright Infringement*, FACEBOOK,

der the Digital Millennium Copyright Act.¹³

Because the copyright remains with the copyright holder, secondary users such as news media that plan to republish social networking photos either need permission or they must argue that their use qualifies as “fair use” under federal copyright law.¹⁴ With respect to the Dupré photos, the Associated Press asserted a fair use defense, and as a photo editor said, “[t]he Associated Press discussed the photos obtained from the MySpace page in great detail and found that they were newsworthy We distributed the photos that were relevant to the story. Those photos did not show nudity, nor were they explicit.”¹⁵ The Associated Press also issued a disclaimer as it circulated the photos saying they were only to be used “with reports or commentary on the Spitzer scandal,”¹⁶ perhaps in an attempt to ensure that the photos fell under the “news reporting” purpose protected as fair use.¹⁷

This argument—that newsworthy photographs shared on social networking sites are “fair use” under copyright law and thus can be republished without permission or penalties for infringement—has not been examined by the courts.¹⁸ In the aforementioned *Agence France Presse v. Morel* case, the court did not enter into the fair use analysis, instead ruling only on Morel’s arguments to proceed in his claims of vicarious and contributory infringement against the news organizations that printed

http://www.facebook.com/legal/copyright.php#!/legal/copyright.php?howto_appeal (last visited Nov. 23, 2011).

13. *Id.*

14. See 17 U.S.C. § 107 (2006).

15. Long, *supra* note 3.

16. Long, *supra* note 3.

17. 17 U.S.C. § 107 (2006).

18. The author searched LexisNexis Academic for all federal and state cases using the terms “fair use” and “photograph” in conjunction with the following social networking sites and terms, resulting in no cases relevant to this study: “myspace,” no cases found; “flickr,” no cases found; “social media,” no cases found; “social networking,” one case found, *Barclays Capital, Inc. v. TheFlyontheWall.com*, 700 F. Supp. 2d 310, 335 (S.D.N.Y. 2010), regarding the “hot news” doctrine, in which photographs were only mentioned in a footnote citing a case involving paparazzi; “facebook,” four cases found: *Viacom Int’l, Inc. v. YouTube, Inc.*, 718 F. Supp. 2d 514, 524 (S.D.N.Y. 2010), primarily regarding the Digital Millennium Copyright Act and responsibilities of internet service providers to take down infringing videos, *Conference Archives, Inc. v. Sound Images, Inc.*, No. 3:2006-76, 2010 U.S. Dist. LEXIS 46955, at *15 (W.D. Pa. Mar. 31 2010), involving the copyrightability of the “look and feel” of a website’s design and mentioning Facebook.com as an example, *Louis Vuitton Malletier SA v. Akanoc Solutions, Inc.*, 97 U.S.P.Q.2d 1178, 1185 n. 9 (N.D. Cal. 2010), in which the court dismissed in a footnote the defendant’s contention that storing the copyrighted works of another on a server was “fair use” by those who accessed the server, and *Summit Enter., LLC v. Beckett Media, LLC*, No. CV 09-8161, 2010 U.S. Dist. LEXIS 7833, at *14 (C.D. Cal. Jan. 12, 2010), regarding trademarks and copyrighted photographs from the *Twilight* series of books being posted on the Facebook page of a fan magazine, in which the only “fair use” mention was in the court’s alteration of an injunction against future use; and “twitter,” one case found, the aforementioned *Conference Archives*, which also listed twitter.com as an example of website design. *Conference Archives, Inc.*, 2010 U.S. Dist. LEXIS 46955, at *15.

his photographs without permission.¹⁹ Scholars and professionals have debated the issue in several forums online, generally advising that republishers seek permission because fair use might not apply²⁰ but failing to reach a consensus or to engage in a thorough legal analysis of the issue.²¹

The purpose of this article is to examine this in more depth, determining whether news media that republish photographs from social networking sites can successfully argue that these uses are protected as fair use for news reporting purposes. Section I of this paper discusses the underlying purposes of copyright regarding photographs and news reporting. Section II studies the four fair use factors as courts have applied them to situations involving photographs used for news reporting purposes and considers this in the context of situations involving photos shared on social network sites. Section III concludes with the implications of this analysis on other recent situations and advice to news media publishers regarding use of these kinds of images.

I. COPYRIGHT, PHOTOGRAPHS AND NEWS REPORTING

Creators of “original works of authorship fixed in any tangible medium of expression”²² are entitled to certain exclusive rights under the Copyright Act of 1976, including the right to make and distribute copies of the work,²³ the right to prepare derivative works,²⁴ and the right to

19. *Agence France Presse v. Morel*, 769 F. Supp. 2d 295, 308 (S.D.N.Y. 2011).

20. *See Ruling or No, Always Ask Permission Before Re-Using Images on the Social Web*, ZOMBIEJOURNALISM.COM (Jan. 7, 2011), <http://zombiejournalism.com/2011/01/ruling-or-no-always-ask-permission-before-re-using-images-on-the-social-web/#> (last visited Nov. 23, 2011) (noting that permission should be sought before using photos found on social networking sites); Clay Gaynor, *Student Editors Talk About Using Social Networking Sites as Sources; Experts Say Approach Sites With Caution*, 27 STUDENT PRESS LAW CENTER 18 (2005), available at http://backedwww.splc.org/news/report_detail.asp?id=1255&edition=38 (last visited Nov. 23, 2011) (noting that “user-provided images hosted on the social networking site may or may not be available under fair use” depending on “how the owner intends to use the photographs and on what use you have in mind”); Chip Stewart, *Can I use a Facebook photo in a news story without permission?* TEXAS CENTER FOR COMMUNITY JOURNALISM (2010), <http://digital.community-journalism.net/askanexpert/answers/can-i-use-facebook-photo-news-story-with> (last visited Nov. 23, 2011) (arguing that using photographs in this manner is not fair use).

21. One law professor suggests that in a situation involving Samantha Ronson, the former girlfriend of actress Lindsay Lohan, posting published paparazzi photos of herself on her MySpace page, “neither the fair use doctrine nor the First Amendment provides Ronson a dependable defense should the copyright holder choose to sue her.” Jennifer E. Rothman, *Liberating Copyright: Thinking Beyond Free Speech*, 95 CORNELL L. REV. 463, 466 (2010). However, the article does not provide any more fair use analysis than this, focusing instead on substantive due process and liberty arguments to conclude that copyright law should not apply to private, not-for-profit uses.

22. 17 U.S.C. § 102(a) (2006).

23. *Id.* at §§ 106(1), (3).

24. *Id.* at § 106(2).

perform or display the work in public.²⁵ Importantly for this study, the protections extend to “pictorial” works,²⁶ which are specifically defined as including “photographs.”²⁷ Even before the modern version of the Copyright Act, the United States Supreme Court clarified in an 1884 case affirming a photographer’s copyright in a picture he arranged of Oscar Wilde that photographs, as “original intellectual conceptions of the author,” are subject to copyright protection.²⁸ The court noted that it was within the power of Congress to protect such works because of the creativity a photographer displays, noting that the photographer:

[E]ntirely from his own original mental conception . . . gave visible form by posing the said Oscar Wilde in front of the camera, selecting and arranging the costume, draperies, and other various accessories in said photograph, arranging the subject so as to present graceful outlines, arranging and disposing the light and shade, suggesting and evoking the desired expression, and from such disposition, arrangement, or representation, made entirely by the plaintiff, he produced the picture in suit.²⁹

Since then, courts have found that “[a]lmost any photograph ‘may claim the necessary originality to support a copyright.’”³⁰ Copyrights attach to photographs at the moment they are created,³¹ with the copyright belonging to the photographer as the author.³²

Asserting and protecting these rights, however, can be a challenge. If a work is used without permission, the author must register his or her copyright with the U.S. Copyright Office before being able to enforce the rights in court, as registration within five years of the creation of the work serves as prima facie evidence of the originality of the work with the author.³³ Amateur photographers, particularly those publishing pho-

25. *Id.* at §§ 106(4)-(5).

26. *Id.* at § 102(a)(5).

27. *Id.* at § 101; *see also* *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 55 (1884).

28. *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 58 (1884).

29. *Id.* at 54-55.

30. *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 450 (S.D.N.Y. 2005) (citing 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 2.08(e)(1) at 2-129 (Matthew Bender ed., 2011)).

31. *Id.*; 17 U.S.C. § 302(a) (2006). Copyrights for works created after January 1, 1978, extend from the moment of creation to 70 years after the death of the author.

32. However, not all photographs automatically receive copyright protection; the statute specifically exempts photographs taken of copyrighted works such as art or sculpture “offered for sale or other distribution to the public” in connection with advertisements or news reports regarding those items. 17 U.S.C. § 113(c) (2006).

33. *Id.* at § 411(a); *see also* Jane C. Ginsburg, *The U.S. Experience with Mandatory Copyright Formalities: A Love/Hate Relationship*, 33 COLUM. J.L. & ARTS 311, 347-48 (2010).

tos on the Web, often do not formally file for copyrights, making it more difficult—and costly—to defend their copyrights against a secondary user.³⁴

Photographers who do register to protect their copyrighted works also must still contend with fair use arguments, however. Under the Copyright Act of 1976, Congress recognized the fair use doctrine that had long been applied by courts as a common law doctrine,³⁵ in furtherance of the policy that copyright law should “promote the Progress of Science and useful Arts” as provided by the U.S. Constitution.³⁶ The Copyright Act attempted to accomplish that goal by allowing authors to build and improve upon prior works. As the U.S. Court of Appeals for the Second Circuit noted, fair use “permits courts to avoid rigid application of the copyright statute when, on occasion, it would stifle the very creativity which that law is designed to foster.”³⁷ It is in this balance, between encouraging creation of new works and allowing others to use the new works for valuable social purposes, that the tension exists.

The Copyright Act of 1976 provides that fair use of copyrighted works for “news reporting” purposes are not infringement.³⁸ The Supreme Court has only applied the fair use analysis to a situation involving news reporting purposes on one occasion: *Harper & Row v. Nation Enterprises*, in which the court decided in 1985 that *The Nation*’s republication of about 300 words from a leaked manuscript of former President Gerald Ford’s memoir, *A Time to Heal* was not a fair use.³⁹ While the essence of the court’s opinion was about the importance of first publication by the copyright holder in the fair use analysis,⁴⁰ both the six-justice majority and the dissenters noted the congressional intent behind including “news reporting” as a specific example of fair use. Justice O’Connor, writing for the majority, found that *The Nation*’s excerpt of Ford’s memoir was for “news reporting” purposes, which was listed by Congress as one of a “listing . . . not intended to be exhaustive” of potential fair uses. Thus, it was not “presumptively” a fair use, instead only qualifying the use for further fair use analysis.⁴¹ Justice Brennan disagreed, finding stronger import in Congress’ decision to list “news report-

34. See Shannon E. Trebbe, *Enhancing Copyright Protection for Amateur Photographers: A Proposed Business Model*, 52 ARIZ. L. REV. 97, 99-100 (2010).

35. See *Harper & Row*, 471 U.S. at 549.

36. U.S. CONST. art. I, § 8, cl. 8.

37. *Iowa State Univ. Research Found. v. Am. Broad. Cos.*, 621 F.2d 57, 60 (2d Cir. 1980).

38. 17 U.S.C. § 107 (2006). The statute also lists “criticism, comment . . . teaching (including multiple copies for classroom use), scholarship, or research” as qualifying purposes for fair use. *Id.*

39. *Harper & Row*, 471 U.S. at 542.

40. *Id.* at 569.

41. *Id.* at 561.

ing” specifically, arguing that it is a “prime example” of intended fair uses that benefit the public by allowing dissemination of information to the public.⁴²

The justices agreed that the analysis does not turn on the quality of the news report, but on the purpose in creating it, regardless of whether the information was actually “new” to the public. Justice O’Connor expressed that the Court should be wary of determining what is news and what is not, and instead should focus on whether the use was fair,⁴³ while Brennan said this was proper, noting that “[c]ourts have no business making such evaluations of journalistic quality.”⁴⁴

Regardless, the Court found that a qualifying purpose of the use such as “[n]ews reporting” is just one factor for courts to consider when considering whether a use is fair.⁴⁵ The four factors for courts to consider in fair use cases are: (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work.⁴⁶

The Supreme Court has noted that because fair use is rooted in an “equitable rule of reason,” these four factors are not exclusive, though they are “especially relevant” as courts consider and apply the fair use analysis.⁴⁷ The Supreme Court has noted that this “task is not to be simplified with bright-line rules” as courts apply the factors on a case-by-case basis.⁴⁸ The factors are not to be “treated in isolation,” but rather, “[a]ll are to be explored, and the results weighed together, in light of the purposes of copyright.”⁴⁹

The courts have not considered a situation in which copyrighted images shared on social networking sites were copied and republished for news reporting purposes—such as the one involving Ms. Dupré. In Section II, each of the four factors are considered as they apply to such a situation by drawing parallels to past court decisions regarding news reporting uses of photographs and other information voluntarily shared rather than commercially sold.

42. *Id.* at 591 (Brennan, J., dissenting).

43. *Id.* at 561 (majority opinion).

44. *Id.* at 591 n.15 (Brennan, J., dissenting).

45. *Id.* at 560-61 (majority opinion).

46. 17 U.S.C. § 107 (2006).

47. *Harper & Row*, 471 U.S. at 560.

48. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 577 (1994).

49. *Id.* at 578.

II. APPLYING THE FAIR USE ANALYSIS

A. Purpose and Character of the Use

In the first factor of the fair use analysis, courts consider the “purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes.”⁵⁰ A finding that the secondary use is for commercial purposes favors the original copyright holder; the Supreme Court has found that such commercial uses are “presumptively an unfair exploitation of the monopoly privilege that belongs to the owner of the copyright.”⁵¹ Conversely, noncommercial uses are more likely to be fair use and favor the secondary user.⁵²

In the situation at hand—publishers using copyrighted photographs shared on social networking sites, as was the case with the Associated Press circulating photos of Ms. Dupré—the secondary use would unquestionably be for commercial news reporting purposes. The Supreme Court has long recognized the benefits of news reporting uses to informing the public. People cannot own the “history of the day” or the facts underlying their news reports. As the Court noted in 1918, “[i]t is not to be supposed that the framers of the Constitution . . . intended to confer upon one who might happen to be the first to report a historic event the exclusive right for any period to spread the knowledge of it.”⁵³

However, the Court has also recognized that such uses can be commercial in nature and do not automatically shield secondary uses for news purposes. In *Harper & Row*, the Court found that *The Nation* was unquestionably informing the public on important matters arising during Ford’s presidency, particularly regarding his decision to pardon disgraced ex-President Richard Nixon, but that this was done for commercial purposes—“scooping the forthcoming hardcover and *Time* abstracts.”⁵⁴ While *The Nation*’s sole purpose was not commercial, this was not dispositive; rather, the question to ask was “whether the user stands to profit from exploitation of the copyrighted material without paying the customary price.”⁵⁵ For example, *The Nation* could have bid for an exclusive abstract before publication of the book, which *Time* magazine did at a cost of \$25,000.⁵⁶ This commercial function outweighed the public

50. 17 U.S.C. § 107(1) (2006).

51. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 451 (1984).

52. *See, e.g., Shell v. City of Radford, Va. Dep’t of Police*, 351 F. Supp. 2d 510, 511-12 (W.D.Va. 2005), in which the district court found that the police department’s use of an unpublished photograph of a crime scene for investigatory functions was not commercial, leading in part to a finding of fair use.

53. *Int’l News Serv. v. Associated Press*, 248 U.S. 215, 234 (1918).

54. *Harper & Row*, 471 U.S. at 562 (emphasis added).

55. *Id.*

56. *Id.* at 542-43.

benefit of the use to the point that the Supreme Court weighed the first factor in favor of Harper & Row.⁵⁷

Other courts have followed this reasoning. In *Los Angeles News Service v. KCAL-TV Channel 9*, the Ninth Circuit found no fair use in television station KCAL airing video footage of Reginald Denny being beaten, footage that was originally shot by Los Angeles News Service (LANS).⁵⁸ Because KCAL “is a for-profit company that is engaged in a commercial enterprise that . . . gathers, and then (indirectly) ‘sells’ news,” the station stood to profit from the news service’s original work without paying for it.⁵⁹ Instead of paying for its own staff to cover the news, KCAL “depriv[ed] LANS of its . . . valuable right of licensing its original videotape which creatively captured the Denny beating in a way that no one else did.”⁶⁰ Similarly, citing both the *Los Angeles News Service* and *Harper & Row* decisions, the District of Massachusetts court found that CBS and its affiliates are “undisputedly commercial entities” and that they “stood to profit” from use in a newscast of a freelance photographer’s images of mobster Stephen Flemmi, thus weighing against a finding of fair use.⁶¹

Following this line of cases, the commercial nature of news reporting uses would favor an original copyright holder who does not grant permission for news media to publish photos found on social networking sites. However, a finding that the secondary use is for a commercial purpose does not preclude a court from finding that the use is fair. The Supreme Court, in its 1993 decision in *Campbell v. Acuff-Rose Music, Inc.*, found that the central purpose of the first factor was to protect “transformative use[s]” that go beyond merely superseding the original work by adding “something new, with a further purpose or different character, altering the first with new expression, meaning, or message.”⁶² In *Campbell*, the Supreme Court found that rap group 2 Live Crew’s parody of the song “Oh, Pretty Woman” was transformative enough to qualify as fair use and thus did not infringe Acuff-Rose Music’s copyright.⁶³

The “transformative” aspect of the first factor of the fair use analysis is extraordinarily important for secondary users. One researcher found that in the six years after *Campbell*, in all but one of 38 lower court opinions, “the courts’ determinations regarding transformative use . . . corre-

57. *Id.* at 561-62.

58. *Los Angeles News Serv. v. KCAL-TV Channel 9*, 108 F.3d 1119, 1120 (9th Cir. 1997), *cert. denied*, 522 U.S. 823 (1997).

59. *Id.* at 1121.

60. *Id.*

61. *Fitzgerald v. CBS Broad., Inc.*, 491 F. Supp. 2d 177, 186-87 (D. Mass. 2007).

62. *Campbell*, 510 U.S. at 579.

63. *Id.* at 594.

lated to their overall decisions regarding fair use.”⁶⁴ The cases in which the court found transformative use were typically those in which the secondary uses “add original expression that clearly constitute criticism, commentary or scholarship.”⁶⁵ Courts are also more likely to find transformative value in uses that benefit the public.⁶⁶

Several courts have found that secondary uses of photographs may be “transformative” depending on how they are used. In *Blanch v. Koons*, the Second Circuit found that a painting by the artist Jeff Koons entitled “Niagara,” which included a photograph of women’s feet in Gucci sandals and with bronze nail polish taken by fashion photographer Andrea Blanch, was transformative because the painting had a different purpose than the photo (serving as “commentary on the social and aesthetic consequences of mass media”).⁶⁷ In *Kelly v. Arriba Soft Corp.*⁶⁸ and *Perfect 10, Inc. v. Amazon.com, Inc.*,⁶⁹ the Ninth Circuit found transformative fair use in thumbnails of digital images displayed and stored on servers by Internet search engines. The court noted that even exact copies of photos could be “highly transformative”⁷⁰ if they are being used for different purposes, in these cases allowing users to “improv[e] access to information on the [I]nternet”⁷¹ rather than any artistic or entertainment purposes of the original photographs.⁷² While the copies may have been exact, the secondary use by search engines had productive benefits for society, which the court deemed “transformative” uses.⁷³ The Southern District of New York found fair use in photographs used as part of a *National Geographic Magazine* cover montage used in a poster celebrating the National Geographic Society’s centennial.⁷⁴

The aforementioned uses were not for news reporting purposes, but other courts have found that copyrighted photographs used for news pur-

64. Jeremy Kudon, *Form Over Function: Expanding the Transformative Use Test for Fair Use*, 80 B.U. L. REV. 579, 583 (2000).

65. *Id.*

66. See *Am. Geophysical Union v. Texaco, Inc.*, 60 F.3d 913, 922 (2d Cir. 1994), in which the court explained, “courts are more willing to find a secondary use fair when it produces a value that benefits the broader public interest.”

67. *Blanch v. Koons*, 467 F.3d 244, 253 (2d Cir. 2006).

68. *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 815 (9th Cir. 2003).

69. *Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1164-65 (9th Cir. 2007).

70. *Id.* at 1165.

71. *Kelly*, 336 F.3d at 819.

72. *Id.* at 815. In *Kelly*, the photographs in dispute were of the American West professional photographer Leslie Kelly. In *Perfect 10*, the photographs were images of nude models. *Perfect 10, Inc.*, 508 F.3d at 1154.

73. See Kathleen K. Olson, *Transforming Fair Use Online: The Ninth Circuit’s Productive-Use Analysis of Visual Search Engines*, 14 COMM. L. & POL’Y 153, 174 (2009), in which the author argues that to conclude that merely productive use is transformational, the court had to torture the “transformative use” doctrine established in *Campbell v. Acuff-Rose Music*.

74. *Faulkner v. Nat’l Geographic Soc’y*, 294 F. Supp. 2d 523, 547 (S.D.N.Y. 2003).

poses can have transformative value as well. In *Nunez v. Caribbean International News Corp.*, the First Circuit Court of Appeals held that newspaper *El Vocero*'s republication of nude photographs of the reigning Miss Puerto Rico Universe qualified as "fair use" and thus was not infringing.⁷⁵ In *Nunez*, photographer Sixto Nunez had intended for the photographs to be used as part of a modeling portfolio, a far different purpose than the news reporting purpose that *El Vocero* claimed.⁷⁶ Further, the existence of the photographs had actually become the news, and reporting on the controversy would have been difficult without including the photos because "the pictures were the story."⁷⁷ Distinguishing this case from *The Nation*'s unauthorized publication of the Ford memoirs in *Harper & Row*, the court pointed out:

It suffices to say here that *El Vocero* did not manufacture newsworthiness, as it sought not to "scoop" appellant [*Nunez*] by publishing his photograph, but merely to provide news reporting to a hungry public. And the fact that the story is admittedly on the tawdry side of the news ledger does not make it any less of a fair use.⁷⁸

This, however, is a very limited exception. The court itself noted that "[u]nauthorized reproduction of professional photographs by newspapers will generally violate the Copyright Act . . .,"⁷⁹ making the exception chiefly because of the independent newsworthiness of the photographs. Under this reasoning, photographs must "be the story" in order to be transformative when used for news reporting purposes. Similar logic could be found in a Southern District of New York decision in 1992, the year before the Supreme Court announced the "transformative" analysis in *Campbell*. In *Mathieson v. Associated Press*, the court found a strong news reporting interest in the Associated Press' publication of photographs of Col. Oliver North wearing body armor that ran with the news-wire's story about North's new business venture.⁸⁰ The photographer had taken the photos for brochures produced by North's company but kept his copyright and did not consent to the secondary use. In this case, the brochure photos were deemed to be an important part of the story, and the fact that the Associated Press had "some commercial motivation is of little if any import in this instance where the clear purpose of the use—news reporting—dispels the notion of theft or piracy which has charac-

75. *Nunez v. Caribbean Int'l News Corp.*, 235 F.3d 18, 25 (1st Cir. 2000).

76. *Id.* at 23.

77. *Id.* at 22.

78. *Id.* at 22-23.

79. *Id.* at 25.

80. *Mathieson v. Associated Press*, 23 U.S.P.Q. 2d (BNA) 1685, 1689 (S.D.N.Y. 1992).

terized other actions.”⁸¹

The intention and actions behind publication by the secondary users—*El Vocero* and the Associated Press—were given credit by both courts. In *Nunez*, the First Circuit found that *El Vocero* had attributed the photographs to Nunez, had not acquired the photos unlawfully, and had “believed in good faith that the photographs were available for general, unrestricted circulation and redistribution.”⁸² And while not finding good faith, the court in *Mathieson* held that the claim that the Associated Press acted in “bad faith” in not seeking permission before publication was “without merit” and should not alter the fair use analysis.⁸³

These holdings clearly are the exception rather than the rule, and courts in several aforementioned cases have not found transformation in the secondary uses of photographs for news purposes. In *Fitzgerald v. CBS*, the Massachusetts District Court was not persuaded by arguments that Fitzgerald’s photos of the mobster Steven Flemmi were “transformed” because CBS cropped state troopers out of the photo and that the arrest of the mobster was “downgraded from breaking news to a supplementary part of a larger story.”⁸⁴ The court noted that this use was slightly less transformative than *El Vocero*’s use of the Miss Puerto Rico Universe modeling photos in *Nunez* but still more transformative than the use by KCAL of Los Angeles News Service’s footage of the Reginald Denny beating.⁸⁵ In that case, the Ninth Circuit found that KCAL would have made a better argument if it had claimed that the Los Angeles News Service’s recording “of the Denny beating *itself* became a news item shortly after it was published because its view was so extraordinary.”⁸⁶ But the court did not find any transformation, and thus no fair use, while noting the lack of good faith action by KCAL because it asked for a license, was denied it, and did not credit LANS when it aired the video.⁸⁷ In a separate case, the Ninth Circuit distinguished a more transformative use of the video in question: Court TV’s inclusion of a few seconds of the video in a montage for the opening of the program “Prime Time Justice.”⁸⁸

An example from the Southern District of New York simply summarizes this point. The court, in finding no transformative value in an auto magazine’s use of a photograph of a man standing by a decorative Cadillac, said that the magazine “uses the photo to show what it depicts,”

81. *Id.* at 1688.

82. *Nunez*, 235 F.3d at 23.

83. *Mathieson*, 23 U.S.P.Q. 2d at 1688.

84. *Fitzgerald*, 491 F. Supp. 2d at 185-86.

85. *Id.* at 185.

86. *KCAL-TV Channel 9*, 108 F.3d at 1121.

87. *Id.* at 1121-1122.

88. *Los Angeles News Serv. v. CBS Broad, Inc.*, 305 F.3d 924, 940-941 (9th Cir. 2002).

which was, in this case, “how an art car looks.”⁸⁹ This kind of use adds nothing to the original use, is not commentary, is not criticism, is not newsworthy on its own, and thus is not transformative.

Applying this analysis of the first factor – the “purpose and character of the use”—makes clear that news publishers face an uphill battle to claim fair use when publishing photographs shared on social networking sites. The commercial nature of publishing news for profit weighs against news media. And while the purposes of the original and secondary uses are vastly different—the original use is for sharing information with friends, while the secondary use is for informing the public—this is unlikely to be deemed a “transformative” use unless the underlying photos are newsworthy in themselves, as was the case in *Nunez*. In the situation involving the photos of Ms. Dupré, while there may have been great public interest about *her* and what she looked like, that would not necessarily mean there was independent news interest in the photographs she chose to share with friends on MySpace. Further, news organizations would need to show that they acted in good faith, believing that the photos were available for public consumption, properly crediting the photos to the copyright holder, and accessing them without violating terms of service or resorting to illegal means such as hacking. This last point presents a difficult situation for news publishers. Accessing photos shared on social networking sites such as Facebook and MySpace and redistributing them in violation of the Terms of Service of those sites, which require users to abide by other users’ intellectual property rights, would likely make it hard to claim good faith use.

B. *Nature of the Copyrighted Work*

The second factor of the fair use analysis considers the “nature of the copyrighted work.”⁹⁰ Because copyright law “generally recognizes a greater need to disseminate factual works than works of fiction or fantasy,”⁹¹ courts are more likely to find fair use in works of fact, news and history than in more creative works. Courts also consider whether the copyright holder has circulated the work for publication; a finding that a work was unpublished and still under the “creative control” of the author weighs against a finding of fair use.⁹²

The Supreme Court has not expounded at length on this factor. In *Harper & Row*, the Court spent four paragraphs briefly summarizing the intent behind the factor. The court found that while *The Nation* should be afforded some protection to copy brief quotes that may be “arguably

89. *Psihoyos v. Nat’l Exam’r*, 49 U.S.P.Q. 2d (BNA) 1766, 1768 (S.D.N.Y. 1998).

90. 17 U.S.C. § 107(2) (1996).

91. *Harper & Row*, 471 U.S. at 563.

92. *Id.*

necessary adequately to convey the facts,” the excerpts in question went beyond fair use because they included too much of President Ford’s expressive writing.⁹³ Secondary use of such “subjective descriptions and portraits of public figures whose power lies in the author’s individualized expression” were enough to tilt this factor in favor of the copyright holder, as did the fact that the manuscript was unpublished and confidential.⁹⁴

Regarding photographs, courts focus on the level of expressive conduct shown by the photographer in determining whether works are factual or creative and whether they have been circulated publicly. In *Nunez*, the First Circuit noted, “certainly, photography is an art form that requires a significant amount of skill,” but found that the modeling photos were less “artistic representations designed primarily to express Nunez’s ideas, emotions, or feelings” than they were displaying the subject’s potential as a model.⁹⁵ While the court was neutral about the creative aspect of the photo, it ultimately favored *El Vocero* in the second factor because the modeling photos were “hardly confidential or secret” and did not threaten Nunez’s right of first publication.⁹⁶

Other courts follow this logic and generally favor the secondary user when photographs are used for news reporting purposes. The Ninth Circuit found that this factor “strongly favors” KCAL in its unlicensed broadcast of Los Angeles News Service’s tape of the Reginald Denny beating, which was “informational and factual and news” and had been previously circulated.⁹⁷ The Massachusetts district court reached a similar conclusion in *Fitzgerald*, holding that this factor favored fair use in republication of the mobster photos because the photographer’s works had been previously published and that the photographs showed “no more than the minimum authorial decision-making necessary to make a work copyrightable.”⁹⁸ In *Mathieson*, the Southern District of New York court found that a photo of Oliver North wearing a bulletproof vest was more creative and thus more likely to receive protection from secondary uses, but a small headshot of North was less imaginative or creative and thus was more likely to be fairly used.⁹⁹

However, this factor does not seem to receive much weight from courts when considering the four factors together. While the courts in

93. *Id.*

94. *Id.* The Supreme Court provided even less analysis in *Campbell*, finding that the songwriter’s creative expression “falls within the core of copyright’s protective purposes,” but that nevertheless, this factor was “not much help in this case” because parody, by necessity, will include copying of other creative works. *Campbell*, 510 U.S. at 586.

95. *Nunez*, 235 F.3d at 23.

96. *Id.* at 24.

97. *KCAL-TV Channel 9*, 108 F.3d at 1122.

98. *Fitzgerald*, 491 F. Supp. 2d at 188.

99. *Mathieson*, 23 U.S.P.Q. 2d (BNA) at 1689.

each of the aforementioned district and court of appeals cases found that the “nature of the copyrighted work” factor favored the secondary user at least in part, the *Nunez* court was the only one to find that the use was fair. That case seemed to turn more on the transformative value of the work and the good faith republication than on any other factor. Based on that showing, the second factor likely favors a finding of fair use when news media republish social media photographs. That is helpful to republishers but is by no means dispositive.

C. Amount and Substantiality of Use

The third factor courts examine in a fair use inquiry is “the amount and substantiality of the portion used in relation to the copyrighted work as a whole.”¹⁰⁰ This factor includes both calculations and context. Courts look at how much of the original work is used, how much of the secondary work constitutes the original work, and the relative importance of the portion taken from the original work. For example, in *Harper & Row*, the Supreme Court counted the number of words in the copyrighted Ford memoir (more than 200,000), the number of words that were used by *The Nation* in its article featuring unauthorized excerpts (about 300), and the number of words in the article published by *The Nation* itself (2,250 words).¹⁰¹ The low percentage of the original work taken (less than 1 percent of Ford’s manuscript) and how much of the secondary work it constituted (about 13 percent of *The Nation*’s article) seemed to favor a finding of fair use. However, the court found that even this “insubstantial” amount in terms of mathematics was not conclusive.¹⁰² The court found that the portion taken was “essentially the heart of the book,” specifically regarding Ford’s decision to pardon Nixon, and that these excerpts “serve as (the) dramatic focal points” of the article in *The Nation*.¹⁰³ With this context in mind, the court found that this factor favored the original copyright holder.

Still photography presents a challenge to this analysis. Rather than counting words or seconds of video footage, as was the case in *Los Angeles News Service v. KCAL-TV Channel 9*,¹⁰⁴ courts must examine photographs that have generally been republished in full. For this reason, the District Court of Massachusetts noted in *Fitzgerald* that the amount-and-

100. 17 U.S.C. § 107(3) (1996).

101. *Harper & Row*, 471 U.S. at 598.

102. *Id.* at 565.

103. *Id.* at 565-66.

104. In this case, KCAL used 30 seconds of LANS’ 4-minute, 40-second original videotape, but the Ninth Circuit found that although “a small amount of the entire Videotape was used, it was all that mattered” because the part KCAL showed was the heart of the work. *KCAL-TV Channel 9*, 108 F.3d at 1120-22.

substantiality factor “weighs less when considering a photograph—where all or most of the work often must be used in order to preserve any meaning at all.”¹⁰⁵ Even in this case, where the court found that CBS edited the photograph “in a way that was arguably more than superficial” by cropping out the portion of the photo with a state trooper, this was not enough to sway the court. Instead, the court found that the factor was split and, regardless, “the overall significance of this factor to the fair use determination is minor.”¹⁰⁶ The First Circuit in *Nunez* reached a similar conclusion, finding that if *El Vocero* had copied any less than the photo in its entirety it “would have made the picture useless to the story.”¹⁰⁷ While this finding of an entire taking certainly favored the copyright holder, the court minimized its import, saying it “count[ed] this factor as of little consequence to our analysis.”¹⁰⁸

New York district courts have recognized one wrinkle to this analysis that may benefit news publishers of photographs shared on social networking sites. In *Mathieson*, the photos of Oliver North in body armor republished by the Associated Press were just two of 20 photographs taken by the photographer that appeared in the promotional brochure. The Southern District of New York court found that even though those photos were taken in their entirety, they were part of a larger body of work, and that work—the brochure—is what constitutes a single “work.”¹⁰⁹ Thus, the court concluded, “[t]he fact that eighteen other photos from the brochure were not depicted lessens the amount of defendant’s copying” of that single work.¹¹⁰ By this reasoning, a news publisher could claim that photo galleries uploaded by a user to Flickr or MySpace or Facebook were a “collective work” for copyright purposes, comparable to an anthology,¹¹¹ and that republishing only one or two photos from the gallery would tilt the amount-and-substantiality factor in favor of a finding of fair use. Still, the weight of winning this part of the argument is questionable. Courts seem to minimize the importance of the third factor in the fair use analysis, even noting in the *Mathieson* case that this

105. *Fitzgerald*, 491 F. Supp. 2d at 188.

106. *Id.* at 188-89.

107. *Nunez*, 235 F.3d at 24.

108. *Id.*

109. *Mathieson*, 23 U.S.P.Q. 2d (BNA) at 1690. The court based this analysis in part on a Western District of New York case in which more than 100 photos is a seed catalog were deemed to be a “compilation” and thus a single work, though that was in the context of determining damages for infringement rather than fair use. *Stokes Seeds Ltd. v. Geo. W. Park Seed Co.*, 783 F. Supp. 104, 106-07 (W.D.N.Y. 1991).

110. *Mathieson*, 23 U.S.P.Q. 2d at 1690.

111. *See* 17 U.S.C. § 101 (2006), which defines a “compilation” as including “collective works” that “constitutes an original work of authorship” and “collective work” as “a work, such as a periodical issue, anthology, or encyclopedia, in which a number of contributions, constituting separate and independent works in themselves, are assembled into a collective whole.”

factor was “proportionally less significant” because of the relative weight of other fair use factors.¹¹²

D. Effect on Potential Market of the Copyrighted Work

In the final factor of the fair use inquiry, courts consider “the effect of the use upon the potential market for or value of the copyrighted work.”¹¹³ Courts have consistently announced this as an extraordinarily significant part of the analysis. In *Harper & Row*, the Supreme Court noted that “[t]his last factor is undoubtedly the single most important element of fair use,”¹¹⁴ and in *Stewart v. Abend*, the court similarly found that this factor is “the ‘most important, and indeed, central fair use factor.’”¹¹⁵ A finding that the unauthorized secondary use harms the market of the original work strongly favors the copyright holder, while a neutral effect—such as a finding that the works were in different markets or that the secondary use may actually enhance the market of the original—favor a finding that the use was fair. In *Campbell*, for example, the court found no effect on the marketplace of the original work because there was “no evidence that a potential rap market was harmed in any way by 2 Live Crew’s parody, rap version [of ‘Oh, Pretty Woman’]” even though copyright holders could possibly have issued licenses for derivative works in that market.¹¹⁶

The focus of courts is not just on actually causing commercial losses to the copyrighted work. This was the case in *Harper & Row*, when *The Nation*’s infringement forced *Time* magazine to cancel its exclusive deal to publish an excerpt of the book, costing the copyright holders at least \$12,500.¹¹⁷ But courts also examine the loss in the “potential market” for the copyrighted work. In *Sony Corp. of America v. Universal City Studios*, the Supreme Court found that video recording of copyrighted television programs did not result in a “great deal of harm” to the potential market for the original broadcasts of the programs.¹¹⁸ It created

112. *Mathieson*, 23 U.S.P.Q.2d at 1690.

113. 17 U.S.C. § 107(4) (2006).

114. *Harper & Row*, 471 U.S. at 566.

115. *Stewart v. Abend*, 495 U.S. 207, 238 (1990) (quoting 4 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.05(A)(4) at 13-198.2 (Release No. 85, 2011)). In *Stewart v. Abend*, the Supreme Court found no fair use in re-releasing and redistributing a motion picture based on a short story, when the author had authorized use of the short story but died during the renewal term of the copyright because the consent to make derivative works was deemed to have lapsed. The court found substantial impact on the potential market value for new movies based on the short story.

116. *Campbell*, 510 U.S. at 593. Also at issue was whether parodies should be seen as derivative works because they are critical rather than derivative in nature. *Id.* at 592.

117. *Harper & Row*, 471 U.S. at 567. The court noted, “Rarely will a case of copyright infringement present such clear-cut evidence of actual damage.”

118. *Sony*, 464 U.S. at 451 (quoting *Universal City Studios v. Sony Corp. of Am.*, 480 F.

two tracks for other courts to apply this factor, depending on the outcome of the first factor regarding purpose and character of the secondary use.¹¹⁹ If the unauthorized use of copyrighted works is for commercial gain, then courts may presume a harm to the potential market of the copyrighted work.¹²⁰ For noncommercial secondary uses, the copyright holder must prove “by a preponderance of the evidence that *some* meaningful likelihood of future harm exists.”¹²¹

As discussed above, news reporting purposes are unquestionably “commercial” under the first factor, meaning in the fourth factor copyright holders are entitled to a presumption that the potential market for the work has been harmed. As the Supreme Court noted in *Campbell*, the presumption of harm is even greater when the secondary use is “mere duplication” of the original because it may serve as a “market replacement for it, making it likely that cognizable market harm to the original will occur.”¹²² Thus, duplication of photographs for news purposes are likely to be presumptively harmful to the market of the copyrighted work, tilting this factor in favor of a finding that the use was not fair.

To overcome this presumption, news media publishers would need to establish that there is no actual harm to the market for the copyrighted photographs. When the original market for the photographs is the same as the market for the secondary use—in this case, for commercial news publications—the use is unlikely to be fair. For example, the Massachusetts District Court in *Fitzgerald* found that the unauthorized inclusion of the plaintiff’s photographs in a CBS broadcast harmed the actual and potential market for the photos because “CBS’s use of the photographs is paradigmatic of the only market the photographs could reasonably have: licensing to media outfits.”¹²³ When “unrestricted use would likely dry up the source” for the market, the court should find that the use was not fair.¹²⁴ Even when the markets are similar but not identical—such as full-page news photographs¹²⁵ or magazine centerfolds¹²⁶ that could compete with the photographer’s ability to license the copyrighted work for publication as a poster—courts have weighed this factor against a finding of fair use.

Supp. 429, 467 (C.D. Cal. 1979)).

119. *Id.*

120. *Id.*

121. *Id.*

122. *Campbell*, 510 U.S. at 591.

123. *Fitzgerald*, 491 F. Supp. 2d at 189.

124. *Id.*; see also *KCAL-TV Channel 9*, 108 F.3d at 1123, in which the Ninth Circuit noted that the fourth factor did not favor a finding of fair use because “KCAL’s use of LANS’s works for free, without a license, would destroy LANS’s original, and primary market.”

125. See *Update Art, Inc. v. Maariv Isr. Newspaper, Inc.*, 635 F. Supp. 228, 232 (S.D.N.Y. 1986).

126. See *Psihoyos*, 49 U.S.P.Q. 2d (BNA) at 1769-70.

However, news publishers have had some success in establishing fair use under the fourth factor when the original market for the photographs is different than the market for the secondary use—and when evidence is lacking that there is a market for the photographs at all. In *Mathieson*, the Southern District of New York found no evidence supporting a finding that a market existed for the photographer's images of Oliver North, noting that Mathieson "could not specifically identify a single situation in which he lost a pending sale or license agreement" as a result of the unauthorized republication by the Associated Press.¹²⁷

Nunez is perhaps the most compelling case for those claiming fair use. In *Nunez*, the First Circuit found that despite an unauthorized commercial use of the photographer's modeling photos of Miss Puerto Rico Universe, which may have had commercial value by being sold to newspapers exclusively so they could "illustrat[e] controversy," there was no evidence in this case that "such a market ever existed."¹²⁸ The fact that Nunez had distributed the photographs in the modeling community for free and did not intend to sell them weighed against the photographer's claim that the potential market was harmed by *El Vocero's* use.¹²⁹ The court also noted the possibility that *El Vocero's* low-quality republication may have actually enhanced the market potential of the modeling photos because buyers may become interested in the original, reasoning that "a newspaper front page is simply an inadequate substitute for an 8" x 10" glossy."¹³⁰

This reasoning, however, strains logic. In the space of one paragraph, the First Circuit found both that (a) there was *no* potential market and (b) that there *was* a potential market that may have been enhanced by the secondary use, and in the following paragraph, the court found that (c) in this context, "[s]urely the market . . . is small or nonexistent."¹³¹ The court seems to distinguish between multiple potential markets: (1) sale to newspapers that was clearly preempted by *El Vocero's* publication, "essentially destroy[ing] this market,"¹³² (2) sale of the glossy original photographs that was not harmed by the newspaper's republication, and (3) distribution of the photographs in the professional modeling community, which was done freely by Nunez and thus caused the photographer no harm. Though Nunez had not sought to sell the controversial photographs to newspapers, this failure to act did not preclude the photographer from doing so, a fact the court recognized. However, in

127. *Mathieson*, 23 U.S.P.Q. 2d (BNA) at 1690.

128. *Nunez*, 235 F.3d at 25.

129. *Id.*

130. *Id.*

131. *Id.*

132. *Id.*

spite of the existence of this actual market—the controversial photos were published on the front page of a newspaper for commercial purposes, after all—the court found that *El Vocero* had met its burden to overcome the presumption of harm to the market and establish fair use. The most likely explanation for this is the context of the case and the other factors, including *El Vocero*'s good faith attribution to Nunez, and the previous free distribution of the photos in the modeling community.

The First Circuit's reasoning in *Nunez* may favor a finding of fair use where news media publish social networking photos. Like *Nunez*, Ms. Dupré voluntarily distributed her photos, which had no apparent actual or potential market at the time they were taken. But for Ms. Dupré and others like her, the secondary use in the news publishing market would destroy any ability they might have as copyright holders to profit by licensing their photographs, which would be some evidence of harm. It might even be enough to make it difficult for defendants to overcome their burden of proving a lack of potential harm to the market. As the Supreme Court mentioned in *Harper & Row*, "to negate fair use one need only show that if the challenged use 'should become widespread, it would adversely affect the *potential* market for the copyrighted work.'"¹³³ In a situation such as Ms. Dupré's, widespread distribution of her copyrighted photos would adversely harm her ability to license them to news publishers, meaning that potential harm is evident, thus making it harder for the republishers to claim fair use.

Overall, considering all four factors in the fair use analysis, there is some support for claims of fair use and some support for no finding of fair use in a situation where news media republish social networking photographs. The first factor, purpose and character of the use, likely favors the copyright holder because the news reporting use is commercial, unless the secondary user can establish that the news use is "transformative" by showing, for example, that the photographs had "become the story" and were newsworthy in their own right. The second factor, the nature of the copyrighted work, likely favors fair use by the news publisher because the underlying news photographs are closer to fact than fiction, despite the level of creativity and originality displayed by the photographer in shooting the image. The third factor, amount and substantiality, likely favors the copyright holder because all or most of the photograph in question must be used for the news reporting use to have any relevance, though this factor may be split if the secondary user has engaged in substantial cropping of the photo or has chosen one photo that was part of a larger collective work. The fourth factor, effect on the potential market, also likely favors the copyright holder because the news

133. *Harper & Row*, 471 U.S. at 568 (quoting *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 451 (1984)).

reporting use would impact the ability of the photographer to license newsworthy photos to other publishers.

As mentioned above, the four factors are not to be weighed equally, but rather to be considered as a whole on a case-by-case basis to determine whether a secondary use is fair. In cases involving photographs used for news purposes, the second and third factors—nature of the copyrighted work, likely favoring secondary news publishers, and the amount and substantiality of the use, likely favoring copyright holders—have been given very little consideration by courts. Instead, the fair use analysis in such situations appears to turn on three questions arising in the first and fourth factors:

(1) Is the news reporting use of the photograph transformative by providing criticism, commentary or productive uses above and beyond the purpose of the original photo?

(2) Is the potential market for the copyrighted photograph harmed by unauthorized republication? and

(3) Did the news publisher act in good faith when using the copyrighted work without permission? Applying these factors to the situation involving the republication of photos that Ms. Dupré took of herself and uploaded to her MySpace account to be shared with her approved friends, it is unlikely that courts would find fair use. First, the photographs were not newsworthy on their own, and thus they are unlikely to be “transformative” as the First Circuit provided in *Nunez*. Rather, the purpose of publishing them would be to show the world what Ms. Dupré looks like, and duplicating images for their original purposes in a way that supplants the need for the original does not favor a finding of fair use. Second, the market for such photographs is evident in the rush to acquire and publish them by the Associated Press, and republishing the photos without permission destroys Ms. Dupré’s ability to profit by licensing the photos to news publishers. While she did not anticipate a market when she took the photographs, this does not mean that she cannot profit from them once a market emerges. The Supreme Court’s creation of a presumption of harm to the market when the secondary use is commercial will likely be difficult to overcome unless the news publishers can establish that no market for the photos actually exists, a difficult argument to make when a news organization is willing to pay a newswire for access to such photos in the first place. Finally, establishing good faith by news publishers may be a challenge in circumstances different than the unique ones present in the *Nunez* case. Ms. Dupré uploaded and shared the photographs to MySpace consistent with its terms of service, which note that users “continue to retain any such rights that you may have in your Content,” subject to a limited non-exclusive license for MySpace to use content on its site. The terms of service also state that users “may not copy, modify, translate, publish, broadcast, transmit, dis-

tribute, perform, display, sell or otherwise use any Content appearing on or through the MySpace Services.”¹³⁴ It would not be hard for a court to find that Ms. Dupré had a reasonable expectation that her uploaded content could not be used by third parties without permission, and that accessing MySpace and using the photos in express disregard to the site’s terms of service would not constitute an act of “good faith” by news publishers.

In light of the preceding fair use analysis, the concluding section of this paper discusses the implications of this analysis, suggests what it might mean for other recent controversies involving news publication of photographs found on social networking sites, and offers guidance to publishers who are considering such uses.

III. CONCLUSION

While the fair use analysis conducted in the above section may make it unlikely that news publishers would, as a matter of course, be able to successfully claim fair use when republishing photographs found on social networking sites, it is not impossible to envision a court drawing parallels to the First Circuit’s *Nunez* holding and finding fair use.

The fair use analysis heavily relies on circumstances and context, and individual outcomes can be hard to predict. This has led to understandable confusion among secondary copyright users and legal scholars who have struggled to find consistency in the courts’ application of the four factors. This is largely because of, as Professor Kathleen K. Olson has noted, “the *ad hoc* nature of most courts’ fair use decision-making.”¹³⁵ Professor Matthew D. Bunker has called the application of the fair use analysis “arbitrary and unreliable” after the Supreme Court’s decision in *Campbell* that altered the transformative use doctrine.¹³⁶

However, the above cases do provide some guidance for news publishers. Acting in good faith should not be underestimated. Courts have recognized that a good-faith belief by a defendant that it was engaging in fair use is evidence that infringement is not willful for damages purposes.¹³⁷ While this does not necessarily affect the fair use analysis, it is recognized by courts, which show some sympathy for good faith actions. One commentator has said the unstated “fifth factor” of fair use is “Does the judge like you?” and is based on one’s intentions and behavior exhibited in connection with the use.¹³⁸

134. *Terms & Conditions*, MYSPACE.COM, <http://www.myspace.com/Help/Terms> (last visited Nov. 23, 2011).

135. Olson, *supra* note 9, at 168.

136. Bunker, *supra* note 9, at 291.

137. *Fitzgerald*, 491 F. Supp. 2d at 190.

138. Jonathan Bailey, *The Problem with the Fifth Fair Use Factor*, PLAGIARISM TODAY

The recent litigation involving Righthaven LLC might present such an example. Righthaven LLC is a company that has purchased copyrights from publishers such as the *Las Vegas Review-Journal* and *The Denver Post* with the intent of bringing infringement suits against people who copy news articles on the Web.¹³⁹ The plaintiffs seek maximum statutory damages of \$150,000 plus seizure of the domain name in these cases,¹⁴⁰ and courts have been finding fair use in unusual circumstances. The District Court of Nevada found fair use despite the commercial nature of a news article copied in part on a Realtor's Web page.¹⁴¹ Two other district courts have found fair use despite the reposting of full articles on non-commercial Web sites.¹⁴² While the litigation initiated by Righthaven, often referred to as "copyright trolls" for their copyright enforcement efforts, is not in bad faith, it clearly has not been favored by the district courts. A recent example involving copyrighted photographs would seem to compound this perception problem for Righthaven. The company brought an infringement suit against the Internet publisher Ars Technica for republishing a photograph from *The Denver Post* as part of its coverage of Righthaven litigation against the news aggregation Web site Drudge Report.¹⁴³ The photograph was not only used for news purposes and newsworthy in its own right—it was the subject of the litigation—but it also turned out that Ars Technica did not use the original copyrighted work. Rather, it used a lower quality black-and-white copy made from public court filings as an exhibit in the case, for which Ars Technica could make an even stronger case for fair use. Righthaven,

(Mar. 24, 2011), <http://www.plagiarismtoday.com/2011/03/24/the-problem-with-the-fifth-fair-use-factor>.

139. John Patrick Pullen, *Las Vegas's Copyright Crapshoot Could Maim Social Media*, FORTUNE (Jan. 6, 2011), <http://tech.fortune.cnn.com/2011/01/06/las-vegass-copyright-crapshoot-could-maim-social-media>.

140. *Id.*

141. *See* Righthaven LLC v. Realty One Group Inc., 96 U.S.P.Q.2d 1516, 1517 (D. Nev. 2010), in which the court found fair use in part because the secondary user only reposted the first eight sentences of a 30-sentence news article.

142. *See* Righthaven LLC v. Klerks, 2010 U.S. Dist. LEXIS 105307, at *10 (D. Nev. Sept. 17, 2010), in which the court found "a sufficiently meritorious defense of fair use" by Klerks after a third party posted an article about skyscrapers and urban development in its entirety on a non-commercial Web site he maintained; *see also* Righthaven LLC v. Jama, No. 2:10-CV-01322-JCM-LRL, at 2 (D. Nev. filed Mar. 25, 2011), in which the court found fair use despite the fact that the nonprofit center in question posted a 33-paragraph article from the *Las Vegas Journal-Review* in its entirety, available at <http://docs.justia.com/cases/federal/district-courts/nevada/nvdce/2:2010cv01322/75299/34/>.

143. *See* Nate Anderson, *Copyright Troll Righthaven's Epic Blunder: A Lawsuit Targeting Ars, ARS TECHNICA* (Mar. 2011), <http://arstechnica.com/tech-policy/news/2011/03/copyright-troll-righthavens-epic-blunder-a-lawsuit-targeting-ars.ars>; *see also* Steve Green, *Righthaven Drops Infringement Lawsuit Against Journalist*, LAS VEGAS SUN (March 29, 2011), <http://www.lasvegassun.com/news/2011/mar/29/righthaven-drops-infringement-lawsuit-against-jour/>.

claiming it made a mistake, requested dismissal of the lawsuit shortly after it was filed.¹⁴⁴

The presence of good faith (or the lack of bad faith) republication helped *El Vocero* and the Associated Press prevail in their fair use arguments in the *Nunez* and *Mathieson* cases, respectively, and while it has not been specifically mentioned in the *Righthaven* cases, the apparent good faith by defendants in those cases—for example, the Realtor “directed readers of his blog to the full text of the Work”¹⁴⁵—may be persuasive to courts considering fair use. Certainly the presence of bad faith actions, such as being denied a license and using the copyrighted work anyway¹⁴⁶ or removing copyright management information and other markers of the original copyright holder,¹⁴⁷ make the case far more difficult for a secondary user.

Another argument put forth by a *Righthaven* defendant—implied license—also has potential if a fair use argument fails. While exclusive transfers of licenses must be done in writing, non-exclusive transfers, such as permitting multiple other users to republish, may be done orally or implicitly.¹⁴⁸ In *Field v. Google Inc.*, the District of Nevada court extended this reasoning to Google’s assertion that a Web publisher, by failing to use an industry-standard “no-archive meta-tag” to prevent search engines from using cached links, must have known Google would use those links to access the copyrighted works on his pages. Therefore, Google argued, the publisher granted an implied license to Google to use the works.¹⁴⁹ In *Righthaven LLC v. Klerks*, the District Court of Nevada applied this reasoning again, finding that implied license was the “most meritorious defense” for Klerks in republishing an article in full.¹⁵⁰ Klerks argued that the *Las Vegas Journal-Review* “offered the article to the world for free, encouraged people to save and share the article with others without restrictions, and permitted users to ‘right-click’ and copy the article from its website.”¹⁵¹

While it might be an intriguing argument for news publishers, implied license has yet to be tested in federal appellate courts in Internet copyright cases, and it presents some logical flaws. Lack of express non-

144. *Id.*

145. *Righthaven LLC*, 96 U.S.P.Q.2d at 1517.

146. *KCAL-TV Channel 9*, 108 F.3d at 1122.

147. *See* *Wilen v. Alt. Media Net, Inc.*, 74 U.S.P.Q.2d 1053, 1056 (S.D.N.Y. 2005), in which the court did not find a valid fair use defense on grounds of parody or “transformation” in defendants’ “willful concealment of the copyright notices” on seven photographs.

148. *See* John S. Sieman, Comment, *Using the Implied License to Inject Common Sense into Digital Copyright*, 85 N.C. L. REV. 885, 898 (2007) (citing 17 U.S.C. § 204(a) (2006)).

149. *Field v. Google, Inc.*, 412 F. Supp. 2d 1106, 1116 (D. Nev. 2006).

150. *Klerks*, 2010 U.S. Dist. LEXIS 105307, at *10.

151. *Id.* While the court did not hold that this was a valid defense, it found that it was “sufficiently plausible” that the case could proceed to further hearings on the matter. *Id.* at 11.

consent to republish does not necessarily mean that consent can be implied, and the *Field v. Google* case may be limited to its facts regarding industry standards on caching. Further, evidence that the copyright holders do not intend to grant consent by allowing sharing presents a challenge for the implied consent defense in the future. Regardless, this is an area that is ripe for future study.

Considering the fair use analysis conducted in this study, the following guidance is offered to news publishers considering the use of photographs found on social networking sites:

1. Use your original work or seek publicly-available works

The safest path for a media outlet is always, of course, to publish photographs the media outlet owns the rights to. When such photographs are not readily available, news publishers should consider using publicly available works such as those licensed through Creative Commons. The photo-sharing site Flickr, for example, has a Creative Commons section with more than 25 million photos available on an “attribution” license. An “attribution” license means publishers only must give credit to the photographer to have authorization.¹⁵² While not all Creative Commons photographs are safe for secondary use by news publishers—more than 52 million photos, for example, are designated “attribution-non commercial-no derivatives,” meaning commercial and derivative uses are not authorized¹⁵³—this is still an area safer than grabbing photographs from other areas of Flickr or from individuals’ pages on Facebook or MySpace.

2. Seek permission from the copyright holder

When original or publicly available work is not readily present to publishers as they seek to inform the public about breaking news on deadline, publishers should seek express permission from the copyright holder. In the case involving Ms. Dupré, a phone call to her or her lawyer may have been enough to establish whether permission would be granted. It is evident from the circumstances that Ms. Dupré was not pleased by the use of her photographs and would not have granted permission; this fact, if known in advance, would have been enough to let publishers know they were entering dangerous territory by using her photos. If the copyright holder does not permit the secondary use, this does not necessarily mean that a fair use argument will fail. In *Campbell*, the 2 Live

152. Explore/Creative Commons, FLICKR, <http://www.flickr.com/creativecommons/> (last visited Nov. 23, 2011).

153. *Id.*; see also Ginsburg, *supra* note 33, at 314 n.7.

Crew was denied permission for its parody of “Oh, Pretty Woman,” which Justice Souter wrote should not be “weighed against a finding of fair use” because “(i)f the use is otherwise fair, then no permission need be sought or granted.”¹⁵⁴ Nevertheless, the Ninth Circuit in the *Los Angeles News Service v. KCAL* case noted that a good faith defense becomes more difficult when a news organization is denied a license and uses material anyway.¹⁵⁵ For news publishers, it would not be much better to willingly refuse to seek a license, knowing that it will likely be denied, and then rest hopes on the slim chance that a court will find fair use.

In such situations, it is quite possible that news publishers will be able to identify or contact the copyright holder on deadline. Social networking sites make contacting people much easier, often allowing direct messaging to users and sometimes providing phone numbers, email addresses, or other contact information to friends or the general public. Publishers should use these tools to make efforts to contact copyright holders in advance of publication.

Contact becomes more difficult when a copyright holder cannot be identified—for example, when photographs are posted on the user’s Facebook or MySpace page by a third party. Further, publishers have no real protection beyond claims of fair use for republishing “orphan works.”¹⁵⁶ Courts have not recognized an orphan works defense for publishers who cannot locate copyright holders to seek authorization to republish,¹⁵⁷ and Congress failed to pass the “Shawn Bentley Orphan Works Act of 2008,” which would have allowed an affirmative defense for publishers who engaged in “diligent” searches for copyright holders.¹⁵⁸

Additionally, those seeking to republish photographs could seek permission from the social networking or photo sharing site hosting the photographs if this is allowed under the Terms of Service. In May 2011, Twitpic altered its Terms of Service to allow users of the site a “non-exclusive . . . license to use, reproduce . . . display and perform the Content” as long as the users received permission from Twitpic in advance and attributed credit to Twitpic.¹⁵⁹ Though Twitpic said it altered the Terms of Service to “protect users’ photos from abuse by the media,” the move angered users who saw it as a naked grab of their copyrights for

154. *Campbell*, 510 U.S. at 585 n. 18.

155. *KCAL-TV Channel 9*, 108 F.3d at 1122.

156. See Benjamin T. Hickman, Note, *Can You Find a Home for this “Orphan” Copyright Work? A Statutory Solution for Copyright-Protected Works Whose Owners Cannot be Located*, 57 SYRACUSE L. REV. 123, 128 (2006).

157. See *Kahle v. Gonzales*, 487 F.3d 697, 698-99 (9th Cir. 2007).

158. S. 2913, 110th Cong. § 514(b)(2)(A)(i) (2008).

159. *Supra* note 10.

commercial purposes.¹⁶⁰ Secondary users should examine the Terms of Service of websites to see if permission may be granted from the site itself.

3. Consider whether the photograph is independently newsworthy

Is the photograph the news publisher is planning to use newsworthy of its own accord? If so, this may provide the “transformative” value that photographs need to be fairly used. Consider whether the existence of the photograph could be the subject of a news story. In *Nunez*, it was the existence of nude modeling photographs of Miss Puerto Rico Universe that was the news; the photographs themselves were necessary illustrations of their existence. One recent example involves former U.S. Representative Chris Lee, a Republican from New York who resigned after his extramarital dalliances became public upon the publication of email discussions with a woman on Craigslist and a photograph he sent to her.¹⁶¹ The existence of the photograph in question, which Rep. Lee took of himself in a mirror, was unquestionably an important part of this story. Secondary use for news purposes is more likely to qualify as fair use in this situation.

4. Act in good faith

There are a number of ways publishers can show that they are acting in good faith. Essentially, publishers should act as if they are trying to fulfill their constitutionally-implied duties to inform the public about important matters while not taking advantage of people who may have a valid market for their copyrightable creations. In the *Nunez* case, the First Circuit noted the importance of attribution. Because *El Vocero* gave credit to *Nunez*, this was evidence that the newspaper was acting in a transparent manner and not trying to hide the source of the works.¹⁶² Further, a news publisher should provide links to the original works when possible, as the Realtor did in *Righthaven LLC v. Realty One Group, Inc.*¹⁶³ to let the audience know the source of the material and have a way to access the full content in its original format.

In this article, the author set out to provide a thorough analysis of the fair use defense as it applies to news organizations that publish pho-

160. *Twitpic Angers Users Over Copyright Grab*, BBC NEWS (May 12, 2011), <http://www.bbc.co.uk/news/technology-13372982>.

161. See Raymond Hernandez, *New York Congressman Resigns Over E-Mails*, N.Y. TIMES (Feb. 9, 2011), <http://www.nytimes.com/2011/02/10/us/politics/10lee.html>.

162. *Nunez*, 235 F.3d at 23.

163. *Righthaven LLC*, 96 U.S.P.Q.2d at 1518.

tographs shared by users on social networking Web sites such as Facebook and MySpace or other sites that allow photo sharing such as Twitpic and Flickr. By examining several federal court opinions, the author suggests that fair use is unlikely to protect news publishers except in circumstances when photographs are a news story in themselves and publishers act in good faith in republishing them. While news publishers would obviously prefer stronger protection, either under the First Amendment or through application of the “implied license” doctrine, Congress and the courts have yet to provide for this. News organizations should continue to push for such protection, but they should be cautious about relying on these grounds when publishing copyrighted photographs of others without authorization.

INSECURITY FOR COMMUNITY SOLAR: THREE STRATEGIES TO CONFRONT AN EMERGING TENSION BETWEEN RENEWABLE ENERGY INVESTMENT AND FEDERAL SECURITIES LAWS

KRISTIN L. BAILEY*

“There are signs that solar is at a tipping point. . . . This is not a technology that exists only in the minds of dreamers in lab coats. It is here today and ready to go.”¹

Policy, rather than sunshine, will remain the US’s greatest solar resource for the next few years. . . . By the middle of this decade, however, the US retail solar market will be driven by fundamental, unsubsidized competition, which should transform the US into one of the world’s most dynamic solar markets.²

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INTRODUCTION

Recently enacted legislation in Colorado made it possible for

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1. Joel B. Eisen, *Can Urban Solar Become a “Disruptive” Technology?: The Case for Solar Utilities*, 24 NOTRE DAME J.L. ETHICS & PUB. POL’Y 53, 60 (2010).

2. Press Release, *US Solar Poised for \$100bn Growth Surge*, BLOOMBERG.COM (Oct. 25, 2010), <http://www.bloomberg.com/news/2010-10-25/us-solar-poised-for-100bn-growth-surge.html> (quoting Milo Sjardin, Bloomberg New Energy Finance’s U.S. head of research).

Colorado residents and businesses to buy a proportional interest in a solar generation facility—and the Renewable Energy Credits attributed to it—if the facility is located anywhere within the subscribers’ county of residence.³ Simultaneously, both in Colorado and elsewhere around the country, similar innovative projects have been established both privately and by municipal utilities through the use of cooperatives and Limited Liability Companies (LLCs). These projects allow consumers to purchase shares in solar energy generation facilities located somewhere other than on their rooftops. These types of projects are known as “community solar.”⁴ The community solar model enables an energy consumer to support solar energy development and reduce her carbon footprint, even if she is unable to install solar panels on her own home because her rooftop is shaded or faces north, because her HOA restricts the installation of solar panels, because she rents, or because she owns an historic home. In addition, the community solar model reduces the high upfront installation costs associated with solar electric energy generation by spreading the costs among a group of consumers.

Technologies that change the way we live, work, and play are an unmistakable part of modern life.⁵ Some types of technology—like new models enabling the widespread adoption of solar electric energy—are a critical component of a sustainable energy future. Solar energy technology has taken great strides in recent years and is predicted to experience explosive growth in the next two decades.⁶ One way in which entrepreneurs are working to spread solar energy to the general public is through the development of community solar projects like those discussed in this Note. Yet, in working out the kinks, entrepreneurs who have developed community solar projects have encountered a somewhat unexpected regulatory framework: federal and state securities laws. Securities laws are aimed at protecting individual investors from fraud and unscrupulous behavior on the part of investment scheme promoters. The reach of securities regulation is much broader than common investment instruments like stocks, bonds, and debt instruments.⁷ Because the penalties for violating securities laws are high, every community solar developer who realizes he or she might be dealing in securities—by marketing a type of investment to consumers—must spend significant time and money to determine the best strategy to

3. COLO. REV. STAT. § 40-2-127 (2011).

4. *See infra* § I.

5. *See Eisen, supra* note 1, at 62-63, 65-67 (discussing how “disruptive” technologies replace outmoded ways of doing and thinking, permanently changing the way we live and arguing that for these technologies to be successful, government policies must provide the right kind of support).

6. Bloomberg Press Release, *supra* note 2.

7. *See infra* Section II.

address this issue. A registered public offering is extremely costly, often costing a new company in excess of one million dollars to perform.⁸ For this reason, venture capital and other established investment vehicles are likely to try very hard to fit one of the exemptions, such as private placements.⁹

This Note focuses on the tension between the important protections provided investors under the Securities Act of 1933 and the national importance of encouraging innovation in renewable energy, and, in particular, community solar. The Note will first describe the development of specific community solar models in Colorado, Maryland, and Oregon. Second, it will give a basic overview of federal securities laws before turning to the application of those laws to unusual new investments that can be analogized to apply to community solar projects. Third, it will discuss three potential solutions to the securities issue for community solar projects: (a) community solar developers could attempt to avoid the securities laws by carefully structuring their projects in ways that are likely to fall outside the securities laws; (b) developers could attempt to fit community solar projects into one of the exemptions to the securities laws; and (c) developers could engage with attorneys in a focused effort to reduce transaction costs for the industry so that registration with the Securities & Exchange Commission (SEC) would not be prohibitive for community solar projects.

Ultimately, because regulatory certainty is an important piece of what enables technology to change the way we live for the better, any action that state and federal governments can take to provide certainty on the securities issue as it relates to community solar projects will enable entrepreneurs working with solar to help transform the way we consume energy. In addition, because the securities laws serve an important regulatory function and because changing them for a particular industry may be unwise, if legal advisors can help solar entrepreneurs streamline the registration process and reduce transaction costs associated with registration, all parties will benefit.

I. BACKGROUND DISCUSSION OF COMMUNITY SOLAR AND DISTRIBUTED GENERATION

Community solar is a term with varying definitions, but for purposes of this Note “community solar” will refer to “the ability of multiple users—often lacking the proper on-site solar resource, fiscal capacity or building ownership rights—to purchase a portion of their

8. CONSTANCE E. BAGLEY & CRAIG E. DAUCHY, *THE ENTREPRENEUR’S GUIDE TO BUSINESS LAW* 157 (2008).

9. *Id.* at 157-59.

electricity from a solar facility located off-site.”¹⁰ Other community solar models are variations on this idea, often influenced by state and local law.¹¹ Traditionally, solar installations are placed directly on energy consumers’ rooftops. Under this model, the typical consumer is connected to the grid but only pays the utility company the difference between what the solar panels produce and the consumer’s total usage—a practice called “net metering.”

In contrast, community solar is located off-site. There are multiple benefits unique to community solar. First, there is no need for consumers to personally clean and maintain the solar panels. If panels are not cleaned and maintained regularly, their efficiency drops. Second, there is no need to move the panels when consumers need to install a new roof. Third, a group approach can take advantage of economies of scale; upfront capital costs, such as the transformer, and ongoing maintenance costs, like cleaning and repairs, can be spread over several purchasers, lowering costs per consumer. This, in turn, reduces the solar panels’ payback time. And fourth, under some community solar models, consumers actually purchase and own a panel or a number of solar panels. Therefore, they own the means of energy production and are locked into a low energy rate should prices increase in the future. In addition, homeowners in shady areas, homeowners whose roofs lack sun exposure, or renters who do not own their roofs can join a community solar array and support solar energy when they otherwise would be prevented by these circumstances. Finally, depending on the utility company servicing the area, rebates for solar energy may be available to members or subscribers to a community solar project. For example, Holy Cross Energy in Colorado provides a rebate of \$1.50 per watt, up to \$9,000, for subscribers to the Clean Energy Collective project described below.¹²

Before delving into the details of community solar projects, a brief introduction to solar energy concepts and costs associated with solar installations is appropriate.

10. Peter Asmus, *Exploring New Models of Solar Energy Development*, 21 THE ELECTRICITY J. 61, 63 (Apr. 2008).

11. *See id.* at 63-64 (listing other definitions adopted by Pacific Northwest users and discussing that, under California law, a community solar project would be an “independent power producer” and would pay the utility the cost of “wheeling,” or moving the electricity on the grid, making them less economical).

12. Scott Condon, *Power to the People: Basalt Company Leaps into Solar Power Production*, THE ASPEN TIMES, Jan. 9, 2011, available at <http://www.aspentimes.com/article/20110109/ASPENWEEKLY/110109884>.

A. *Introduction to Solar Energy Concepts, Tax Credits, and Costs*

Solar electric energy is produced by photovoltaic (PV) panels that convert sunlight to electricity.¹³ Currently, panels that are placed directly on residential consumers' homes produce most solar PV generation in the United States. Recent research by Bloomberg New Energy Finance states that the unsubsidized cost of the best solar generation technology is just under \$200 per megawatt-hour, which is almost four times that of a coal-fired power plant (\$56 per megawatt-hour) and between two and four times the cost of wind power.¹⁴ The Bloomberg researchers therefore contend that for the near future, subsidies will continue to be important to widespread consumer adoption: "[p]olicy measures such as tax credits, capital expenditure grants, generation incentives and renewable electricity credits will remain a key driver of solar uptake in the US for at least the next three years."¹⁵ Current subsidies are fairly generous, and they become more generous depending on where a consumer lives; oftentimes, subsidies can cover between 30 and 65 percent of the cost of a home solar installation.¹⁶

Taxpayers who buy qualified solar electric property during the tax year enjoy a thirty percent federal tax credit.¹⁷ Qualified solar electric property means "an expenditure for property which uses solar energy to generate electricity for use in a dwelling unit located in the United States and used as a residence by the taxpayer."¹⁸ Several states offer tax incentives for solar investments as well.¹⁹ In addition, a provision in the 2009 American Recovery and Reinvestment Act provided a temporary thirty-percent grant in lieu of a tax credit for renewable energy equipment purchased for use in a trade or business.²⁰ The program included solar equipment purchased for a business and was extended for

13. Solar Photovoltaic Technology, NAT'L RENEWABLE ENERGY LAB., http://www.nrel.gov/learning/re_photovoltaics.html (last visited Dec. 10, 2011); NAT'L RENEWABLE ENERGY LAB., GET YOUR POWER FROM THE SUN 2-3 (2003), available at <http://www.nrel.gov/docs/fy04osti/35297.pdf>.

14. Bloomberg Press Release, *supra* note 2.

15. *Id.*

16. Brian Palmer, *For a Big Tax Break, Hit the Roof*, WASH. POST, Oct. 26, 2010, at E3, available at http://www.washingtonpost.com/wp-dyn/content/article/2010/10/25/AR2010102504021_2.html (referring readers to a "Solar PV Calculator" that allows consumers to enter their zip code and get information on tax breaks for solar under federal and state law and how much money solar could save them over the years).

17. 26 U.S.C. § 25D (2011).

18. *Id.*

19. See DSIRE: Database of State Incentives for Renewables & Efficiency, U.S. DEP'T OF ENERGY, <http://www.dsireusa.org> (last visited Dec. 10, 2011) (cataloging state tax incentives).

20. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, §1603(a), 123 Stat. 115 (2009).

an additional year in December 2010; it is now set to expire on December 31, 2011.

Still, one important underlying issue to a discussion of the adoption of solar energy is that solar energy remains costly at the present time. The success of any new power generation system relies on whether its benefits outweigh its costs to consumers.²¹ While the environmental benefits of solar are significant, customers' perceptions of whether solar is a good investment may very well determine whether it undergoes widespread adoption.²² The cost of a typical PV module has fallen by half in the past two years, but solar is still expensive compared with other sources of energy.²³ For solar the expense is concentrated in the upfront installation costs, while ongoing maintenance and input costs are minimal.²⁴ Upfront costs vary, but can be around \$15,000 for a residential home.²⁵ The cost per megawatt-hour also varies and can depend heavily on how long the PV collectors last (they can last over twenty-five years and, of note, many companies insure their PV collectors for twenty to twenty-five years).²⁶

Rooftop solar and community solar are both examples of distributed generation (DG). In contrast to the traditional grid-connected large power plant model, DG refers to power produced in smaller amounts by facilities that are located close to and distributed directly to consumers; excess power may be sent back to the grid.²⁷ One author defines DG as "power generation technologies below 10 MW electrical output that can be sited at or near the load they serve."²⁸ Typical DG includes renewable sources like solar panels, fuel cells and possibly wind—if the wind turbines are located in close proximity to the consumers—but also includes internal combustion engines and gas turbines; because it is independent of large power production, DG allows consumers more self-reliance and potentially more reliability.²⁹

21. Anne-Marie Borbely & Jan F. Kreider, *Distributed Generation: An Introduction*, in *DISTRIBUTED GENERATION: THE POWER PARADIGM FOR THE NEW MILLENNIUM* 1, 32-36 (Anne-Marie Borbely et al. eds., 2001).

22. See *id.* at 32 (stating, "The final judgment regarding the installation of any DG system usually comes down to an economic decision").

23. Bloomberg Press Release, *supra* note 2.

24. Unlike the ongoing and increasing cost of fuel, sunlight is free. See *GET YOUR POWER FROM THE SUN*, *supra* note 13, at 8.

25. Palmer, *supra* note 16.

26. *Id.*

27. *Fundamental Smart Grid Patent Issued*, SOLAR NOVUS TODAY (Nov. 9, 2010), http://www.solarnovus.com/index.php?option=com_content&view=article&id=1653:fundamental-smart-grid-patent-issued&catid=41:applications-tech-news&Itemid=245.

28. Borbely & Kreider, *supra* note 21, at 2.

29. *Id.* at 3; SOLAR NOVUS TODAY, *supra* note 27 (reporting the issuance of a patent in November 2010 to Beacon Power for smart grid technology that allows a distributed generation micro-grid to continue operating when the primary grid fails).

If a home that is partially fueled by solar power is connected to the grid, its use of solar energy will cause its energy meter to run backward; this is called “net metering.”³⁰ If the home produces more solar energy than it can use, the utility may enter a contract with the homeowner to buy the excess power.³¹

B. *What is Community Solar?*

As defined above, community solar is the ability of multiple users who may lack the ability or desire to install rooftop solar panels to purchase a portion of their electricity from a solar facility located off-site. This section will describe three young community solar projects located in Colorado, Maryland, and the Pacific Northwest to illustrate the similarities, differences, and challenges of community solar development. It will conclude with a brief description of the very young Colorado law authorizing “community solar gardens” for investor-owned utilities.

The first community solar project in Colorado, the Mid-Valley Solar Array, is located about one mile from El Jebel, Colorado.³² The Mid-Valley Solar Array is a 338-panel installation that is connected to the grid by a local electric cooperative, Holy Cross Energy; it went active in August 2010.³³ It will produce 77.7 kilowatts of energy at its peak.³⁴ Panels were sold to residents in the Roaring Fork Valley and along Interstate 70; the largest purchase was 87 panels.³⁵

The Mid-Valley Solar Array was developed by the Clean Energy Collective (“CEC”), an entity that says it is focused on accelerating the adoption of clean energy solutions.³⁶ Under the CEC model, customers own their panels. CEC’s website states that its starting price to purchase a 320-watt panel is \$725.³⁷ Software developed for CEC monitors the output of each panel, and customers get credit on their electric bills for the portion of electricity produced by their panels. The cost of buying

30. See Peter S. Curtiss, *Principles of Control of Distributed Generation Systems*, in *DISTRIBUTED GENERATION: THE POWER PARADIGM FOR THE NEW MILLENNIUM* 185, 188-89 (Anne-Marie Borbely et al. eds., 2001).

31. *Id.* at 187-89.

32. Condon, *supra* note 12.

33. *Id.*

34. Taylen Peterson, *The Country’s First Community-Owned Solar Garden*, THE ENERGY COLLECTIVE (Aug. 18, 2010), <http://theenergycollective.com/taylenpeterson/41850/country%E2%80%99s-first-community-owned-solar-garden>.

35. Condon, *supra* note 12.

36. Mission, CLEAN ENERGY COLLECTIVE, <http://www.cleanenergycollective.com/mission.aspx> (last visited Dec. 10, 2011).

37. Frequently Asked Questions, CLEAN ENERGY COLLECTIVE, <http://www.cleanenergycollective.com/faq.aspx> (last visited Dec. 10, 2011).

into the system includes ongoing maintenance and future capital costs, and the panels carry a 50-year warranty. Two larger systems, planned for Rifle and Vail, are in development stages.³⁸ The Rifle project will host 5,600 solar panels and a capacity of 1.2 megawatts.³⁹

In University Park, Maryland, residents developed a similar model independent of utility involvement. University Park Community Solar, LLC, (“UP Community Solar”) is a neighborhood solar facility in Prince George’s County, Maryland, just east of Washington, DC.⁴⁰ It was established by a group of residents who approached a local church as a potential site for a community solar installation because the church had a large roof with good sun exposure. Many of the residents wanted to support solar electric energy, but their rooftops were blocked from the sun by trees. University Park’s tree-lined streets make it a popular residential area but make most homes less-than-optimal sites for solar panels. According to the UP Community Solar website, the very trees that form the town’s natural canopy are why “the cost of installing a solar system on individual home sites” is prohibitive.⁴¹ “[T]he fact that University Park is located in a forest of oaks, maples and pines, [makes] a centrally located solar plant with wide exposure to the sun [] far more efficient.”⁴² The residents convinced the church to place solar panels on its roof in exchange for a guaranteed low electric rate from a renewable source for years to come.

It took three years for UP Community Solar to jump through the requisite regulatory and legal hurdles, but in May of 2009 they successfully installed a 21.9-kilowatt system on the Church of the Brethren in University Park. This project is believed to be the first community solar electric system in the United States. It will provide power to the Church of the Brethren on whose roof it is installed and benefits to over thirty members.⁴³ The project’s goal was to attract enough members to cover the \$130,000 cost of the project while allowing members to recoup their costs fairly quickly.⁴⁴

UP Community Solar members hope to see a return on investment of seven to eight percent, in part from energy payments from the church and in part because the Potomac Electric Power Company (“PEPCO”) is

38. Condon, *supra* note 12.

39. *Id.*

40. See What is the University Park Community Solar LLC?, UNIVERSITY PARK SOLAR, <http://www.universityparksolar.com> (last visited Dec. 10, 2011).

41. Q’s & A’s, UNIVERSITY PARK SOLAR, http://www.universityparksolar.com/q’s_&a’s.htm (last visited Dec. 10, 2011).

42. *Id.*

43. *Residents of University Park Band Together in First Community-Initiated Solar Electric System*, STANDARD SOLAR (Apr. 22, 2010), <http://www.standardsolar.com/About-Us/News/First-Community-Initiated-Solar-Electric-System>.

44. Q’s & A’s, *supra* note 41.

required by Maryland law to generate a certain percentage of its energy from renewable sources.⁴⁵ One way it does this is by purchasing Renewable Energy Certificates (“RECs”) from renewable sources. Recent values for solar RECs in Maryland have ranged from \$311 to \$360 per megawatt hour (a single REC).⁴⁶ UP Community Solar expects to generate enough energy to sell thirty RECs per year.⁴⁷

Under the UP Community Solar model, ownership of the solar array is in an LLC. Community members who wish to participate can buy a membership interest in the LLC.⁴⁸ The memberships help pay for initial capital and ongoing maintenance costs. Then, as in any LLC, the income from the enterprise and federal and state tax benefits flow through to the members. Here, members get two primary benefits in return for their membership: payments from the host (the church) for the energy provided to the church building and RECs that they can sell. In addition, they have received the benefit of tax credits and the one-time 30 percent cash grant enacted in the 2009 federal stimulus legislation.⁴⁹

In Ashland, Oregon, a community solar project called Solar Pioneers II bears some similarities to and some differences from the Colorado and Maryland models. Unlike the Colorado and Maryland models, construction of the solar array and the development of the business model was initiated and managed by the city of Ashland’s municipal utility. The project was finished in 2008 and has a 63-kilowatt capacity. Under the Ashland model, members buy shares, or fractions of shares, in solar panels.⁵⁰ Members receive a payment once per year, for a period of twenty years, that is based on the amount of energy produced by the member’s panel.⁵¹ The payment is issued in the form of a credit that is applied to the member’s electric bill.⁵² The credit can be carried forward each month until it is used. At the end of the year, if the credit is not completely used, the member is paid for the remaining energy at the retail rate. Unlike the Maryland model, the RECs associated with the energy produced cannot be traded or sold by the members; instead, they

45. Billy Parish, *Community Solar Pioneers*, GRIST (Oct. 1, 2010), <http://www.grist.org/article/community-solar-pioneers>.

46. Q’s & A’s, *supra* note 41.

47. *Id.*

48. Telephone Interview with David Brosch (Jan. 14, 2011); see *How Does the Solar LLC Work?*, UNIVERSITY PARK SOLAR, <http://www.universityparksolar.com> (last visited Dec. 10, 2011).

49. *Id.*

50. Ashland Oregon’s Solar Pioneers II, NW. CMTY. ENERGY, <http://www.nwcommunityenergy.org/solar/solar-case-studies/the-vineyard-energy-project> (last visited Dec. 10, 2011).

51. *Id.*

52. *Id.*

are generally retired by the utility on the members' behalf.⁵³

Finally, back in Colorado, a recently enacted law allows individuals and businesses to purchase "a proportional interest in solar electric generation facilities" located in their county of residence.⁵⁴ The Colorado law names such a solar generation facility a "community solar garden," defined as "a solar electric generation facility with a nameplate rating of two megawatts or less that is located in or near a community served by a qualifying retail utility where the beneficial use of the electricity generated by the facility belongs to the subscribers."⁵⁵ The law's legislative declaration states that it is designed to provide Colorado residents and businesses with the opportunity to participate in solar generation beyond rooftop generation, to allow renters and low-income utility customers to "own interests in solar generation facilities," and to allow such interests to be portable and transferable.⁵⁶

A Colorado solar garden may be built and owned by a for-profit or non-profit organization, including an investor-owned utility or a subscriber organization as defined in the statute.⁵⁷ A solar garden subscriber receives a proportional interest in the physical facility and a proportional right to the RECs generated by the facility.⁵⁸ Solar gardens must have ten or more subscribers, and each subscriber must attribute the solar energy produced by his or her subscription to a physical location in the same county as the solar garden.⁵⁹ Subscribers may sell or assign their subscriptions to anyone else who qualifies as a subscriber or subscriber organization.⁶⁰ Subscribers may also transfer a subscription to a new address if a subscriber moves within the county.⁶¹ The law also provides a way for investor-owned utilities to satisfy the renewable energy standards required by Colorado statute; community solar gardens qualify as "retail distributed generation" for purposes of the renewable energy standards.⁶²

53. *Id.*

54. COLO. REV. STAT. § 40-2-127 (2011) (created by H.B. 1342, 67th Gen. Assemb., Reg. Sess. (Colo. 2010)).

55. *Id.* at § 40-2-127(2)(b)(I)(A).

56. *Id.* at § 40-2-127(1)(b).

57. *Id.* at §§ 40-2-127(2)(b)(I)(A), (3).

58. *Id.* at § 40-2-127(2)(b)(III).

59. *Id.* at § 40-2-127(2)(b). There is an exception to the one-county rule if the subscriber lives in a county with a population less than twenty thousand; in that case, the solar garden and/or physical locations to which the energy is attributed may be in an adjacent county, also with a population of less than twenty thousand, as long as both areas are served by the same utility.

60. *Id.* at § 40-2-127(2)(b)(III).

61. *Id.* at § 40-2-127(2)(b)(II); Tom Konrad, Comment to *Community Solar Gardens*, CLEAN ENERGY WONK (Mar. 7, 2010, 8:46 PM), <http://cleanenergywonk.com/2010/03/07/community-solar-gardens>.

62. COLO. REV. STAT. § 40-2-127(2)(b)(I)(B) (2010); *see id.* at § 40-2-124.

Whatever their form, community solar projects are an innovative response to some of the challenges facing widespread solar electric adoption, like the high costs of installation. But these projects are not without significant challenges. Regardless of geographic location and variations in the models used, selling shares in community solar projects may implicate federal and state securities laws. The next section will describe why securities regulation remains one of the biggest question marks for the future success of these projects.

II. CURRENT SECURITIES LAW AND EXEMPTIONS

A. *What is a Security?*

The federal securities laws were enacted in response to the fraudulent investment schemes and chaotic markets of the 1920s.⁶³ They were designed to increase information disclosure surrounding the issuance and trading of securities, and they have come to be regarded as two of the more successful legislative accomplishments of the New Deal.⁶⁴ Both Acts reflect the policy sentiment that “sunlight is the best disinfectant.”⁶⁵ The Securities Act of 1933 regulates the initial offering of securities to the public; it requires a registration statement to be filed with the SEC that discloses important information to investors and prohibits the sale of—or offers to buy—any security for which no registration statement has been filed.⁶⁶ The registration statement must disclose all information that the SEC determines is “necessary or appropriate in the public interest or for the protection of investors.”⁶⁷ According to Professor Thomas Lee Hazen, “[t]he reasoning is that full disclosure provides investors with sufficient opportunity to evaluate the merits of an investment and fend for themselves.”⁶⁸

The Exchange Act of 1934 cast a broader net. It regulates every aspect of public securities trading, including buyers, sellers, issuers, and the marketplaces in which securities are traded.⁶⁹ The Exchange Act is not limited to the initial offering; instead, it regulates securities in an ongoing manner.⁷⁰ There are some exemptions to the requirements of both acts; two are discussed in detail below.

63. THOMAS LEE HAZEN, *LAW OF SECURITIES REGULATION* § 1.2 (6th ed. 2009) (stating that Wall Street Stock Market Crash of 1929 was “the straw that broke the camel’s back”).

64. *Id.*

65. *Id.*

66. *Id.*; 15 U.S.C. §§ 77e(a), (c) (1954); *see* Securities Act of 1933, 15 U.S.C. §§ 77a-aa.

67. 15 U.S.C. § 77g(a) (2010).

68. HAZEN, *supra* note 63, at § 1.2.

69. *Id.*; *see* Securities Exchange Act of 1934, 15 U.S.C. §§ 78a-pp.

70. HAZEN, *supra* note 63, at § 1.2.

In an attempt to define “security,” the Securities Act, the Exchange Act, and state securities statutes contain lists of common financial instruments and arrangements.⁷¹ These definitions are exceptionally long, but because new financial instruments are perpetually being created, the list cannot be exhaustive. Where courts have encountered new investments not expressly listed in the statutes, they have focused on the term “investment contract” in the 1933 Act. *S.E.C. v. W.J. Howey Co.* first articulated what has become the seminal test courts turn to when asked to determine whether an “investment contract” is a security.⁷² Thus, courts use the *Howey* test to determine whether an entity is engaged in the issuance of securities.

In *Howey*, the defendant promoters were two corporations that cultivated and managed citrus groves in Florida; in addition, they sold tracts of those groves to the public as investments to help finance future development.⁷³ Upon selling a tract, the defendants would enter into a service contract with the purchaser that promised to provide the purchaser with “an allocation of the net profits” from the sale of produce but that limited the purchaser’s rights and obligations with respect to the actual cultivation of the tract and the marketing of its produce.⁷⁴ The defendant citrus-cultivators-turned-investment-brokers denied that they were dealing in securities and argued that they were not obligated to register with the SEC under the 1933 Act.⁷⁵

The Supreme Court seized this opportunity to define “investment contract” under the 1933 Act as “a contract, transaction or scheme whereby a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party.”⁷⁶ The *Howey* test has four parts: (1) an investment of money, (2) in a

71. *See, e.g.*, 15 U.S.C. § 77b(a)(1) (2000) (defining security as “any note, stock, treasury stock, security future, bond, debenture, evidence of indebtedness, certificate of interest or participation in any profit-sharing agreement, collateral-trust certificate, preorganization certificate or subscription, transferable share, investment contract, voting-trust certificate, certificate of deposit for a security, fractional undivided interest in oil, gas, or other mineral rights, any put, call, straddle, option, or privilege on any security, certificate of deposit, or group or index of securities (including any interest therein or based on the value thereof), or any put, call, straddle, option, or privilege entered into on a national securities exchange relating to foreign currency, or, in general, any interest or instrument commonly known as a ‘security,’ or any certificate of interest or participation in, temporary or interim certificate for, receipt for, guarantee of, or warrant or right to subscribe to or purchase, any of the foregoing”); *see also* WASH. REV. CODE § 21.20.005(12) (2011); COLO. REV. STAT. § 11-51-201(17) (2005) (providing examples of state statutes that are closely modeled after federal definition).

72. *S.E.C. v. W.J. Howey Co.*, 328 U.S. 293, 301 (1946).

73. *Id.* at 295.

74. *Id.* at 296.

75. *Id.* at 297.

76. *Id.* at 298-99.

“common enterprise,” (3) an expectation of profits, and (4) based solely on the “efforts of the promoter or a third party.”⁷⁷ Because the citrus grove scheme persuaded investors to part with their money on the promise of profits but did not involve those investors in the management of the enterprise or cultivation of the land, the Supreme Court concluded that the arrangements were “investment contracts” under the 1933 Securities Act.⁷⁸

The *Howey* Court described its “investment contract” test as a flexible standard that would enable courts to adjust the application of the Securities Act to new, creative entities.⁷⁹ “It embodies a flexible rather than a static principle, one that is capable of adaptation to meet the countless and variable schemes devised by those who seek the use of the money of others on the promise of profits.”⁸⁰ The *Howey* test has thus become the seminal framework courts use to determine whether a new, unfamiliar type of entity or arrangement will be treated as a security. The fourth factor in the test—whether the expectation of profit is based solely on the efforts of a third party—has become particularly important in the case law. Many cases are determined on whether the investors are involved in business decisions or, alternatively, whether they are passive and uninvolved. Other cases look to whether the efforts of the promoter are entrepreneurial and managerial to the extent that those efforts are responsible for generating profits, or whether the promoter performs merely “ministerial” functions, with the return on investment being due primarily to external factors like fluctuating market conditions.

Two fairly recent appellate decisions that addressed whether memberships in LLCs were “investment contracts” under the securities laws illustrate the first type of inquiry, in which the court focuses on the level of investor involvement. While courts tend to treat general partnerships with a strong presumption that their membership interests are not securities, courts have “explicitly refused to accord LLC membership interests any such presumption.”⁸¹ Instead, courts rely on the *Howey* test to analyze LLC membership interests, in particular emphasizing the extent to which the member is passive, relying on the efforts of others. One observer writes,

A membership interest [in an LLC] may be a security of the investment contract type if the regulations vest ultimate control in

77. *Id.*

78. *Id.* at 299-300.

79. *Id.* at 299.

80. *Id.*

81. Elisabeth S. Miller, *Are the Courts Developing a Unique Theory of Limited Liability Companies or Simply Borrowing from Other Forms?*, 42 SUFFOLK U. L. REV. 617, 624 (2009).

others; if the interests are sold to such large numbers of the general public that the interest does not provide any real control; if a member lacks the business experience and knowledge to exercise management rights possessed by the member; or if a member is, in fact, dependent upon the ability of a promoter or manager because of some unique expertise on the part of the promoter or manager.⁸²

Therefore, a court's factual analysis of the members' involvement in the business is extremely important.

In *Robinson v. Glynn*, one of the first federal appellate decisions that addressed whether an LLC membership interest was a security, the Fourth Circuit concluded the LLC membership in question was not an investment contract based on *Howey*.⁸³ The court placed great weight on the plaintiff's active role in management of the LLC, including his role as company treasurer, his veto power over the incurrence of debt outside the normal course of business or over any action that would dilute his investment, and his power to appoint two members to the board of managers.⁸⁴ Quoting *Howey*, the *Robinson* court summarized:

The question is whether an investor, as a result of the investment agreement itself or the factual circumstances that surround it, is left unable to exercise meaningful control over his investment. Elevating substance over form in this way ensures that the term 'investment contract' embodies 'a flexible rather than a static principle.'⁸⁵

The *Robinson* court concluded that the plaintiff's "level of control" was "'antithetical to the notion of member passivity' required to find an investment contract under the federal securities laws."⁸⁶ Therefore, the plaintiff's interest was not a security.⁸⁷

In contrast, in *United States v. Leonard*, the Second Circuit concluded that two LLCs had issued securities based on the same *Howey* factors.⁸⁸ In *Leonard*, two LLCs named Little Giant and Heritage Film Group issued investment "units" priced at \$10,000 to help finance the production of films.⁸⁹ The court concluded that the investment "units" were securities based on a number of factors, many of which highlighted the passivity of the investors. The court stated, "the Little Giant and Heritage members played an extremely passive role in the management

82. *Id.* at 623.

83. *Robinson v. Glynn*, 349 F.3d 166, 174 (4th Cir. 2003).

84. *Id.* at 171.

85. *Id.* at 170 (quoting *Howey*, 328 U.S. at 299) (internal citations omitted).

86. *Id.* at 171.

87. *Id.*

88. *See United States v. Leonard*, 529 F.3d 83 (2d Cir. 2008).

89. *Id.* at 85-86.

and operation of the companies.”⁹⁰ For example, the *Leonard* court noted that the investors rarely voted on decisions even though the membership documents gave each investor one vote, the investors did not form committees that they were entitled to form, the investors did not negotiate the terms of the LLC agreement, the investors did not have expertise in the film business, and there were so many investors (a total of six to seven hundred) and they were dispersed across such a wide geographic area that they were dependent on centralized management.⁹¹ In considering all of these factors and circumstances, the court concluded that the defendant LLCs had issued securities.⁹²

In both *Robinson* and *Leonard*, the appellate courts refused to articulate a bright line rule for LLC memberships beyond the *Howey* test. Professor Elizabeth Miller writes that in *Robinson*, “the Fourth Circuit noted that LLCs lack standardized membership rights or organizational structures and can assume an almost unlimited variety of forms. Thus, the court declined to state any general rule as to whether LLC interests are investment contracts or non-securities.”⁹³ Of considerable importance to its analysis, the *Leonard* court emphasized “the Supreme Court’s repeated instruction to prize substance over form in our evaluation of what constitutes a security.”⁹⁴ This analysis underscores that the courts remain flexible in their approach to new entities and refrain from articulating hard-and-fast rules, instead preferring to rely on the guidelines set forth in *Howey*. The reader should note that courts apply the four-part *Howey* analysis in the same manner when the alleged investment contract is a membership or ownership interest in a cooperative, association or nonprofit organization.⁹⁵

Faced with a factual scenario in which the promoter’s efforts are more administrative than managerial, largely consisting of pre-investment decisions and efforts, some courts in another line of cases have focused on whether the investors’ expectation of profit is significantly due to the promoters’ efforts.⁹⁶ In *S.E.C. v. Life Partners, Inc.*, the D.C. Circuit held that viatical settlements—contracts in which investors purchase the rights to the benefits of life insurance contracts on the lives of terminally ill individuals at a deep discount—are not

90. *Id.* at 89.

91. *Id.* at 89-90.

92. *Id.* at 91.

93. Miller, *supra* note 81, at 624.

94. *Leonard*, 529 F.3d at 90.

95. *Compare* *Tenants Corp. v. Jakobson*, 503 F.2d 1375 (2d Cir. 1974) (finding a cooperative housing association had issued securities because tenant-shareholders expected a profit and that profit was based on the efforts of a third party), *with* *United Housing Foundation, Inc. v. Forman*, 421 U.S. 837 (1975) (holding that shares in a nonprofit housing cooperative were not securities because they did not satisfy the *Howey* test).

96. *See, e.g., S.E.C. v. Life Partners, Inc.*, 87 F.3d 536, 545-48 (D.C. Cir. 1996).

securities because the investors' return on investment predominantly depends not on the promoter's efforts but on how long the insured lives.⁹⁷ In *Life Partners*, the promoter arranged the transactions, focusing primarily on choosing which life insurance contracts in which to invest and negotiating the purchase price; after investment, the promoter performed mostly administrative services.⁹⁸ After the investment was made, the investor's profit or loss depended on how long the insured lived.⁹⁹ The court concluded that the *Howey* test was not satisfied because the promoter's efforts after investment did not have a "predominant influence" upon the investors' profits.¹⁰⁰

In reaching its decision, the court in *Life Partners* focused on two aspects of the promoter's efforts: first, whether they were entrepreneurial or ministerial in nature and second, whether the efforts were pre-investment or post-investment.¹⁰¹ The first issue was a highly fact-specific inquiry in which the court considered whether the promoter's efforts were "ministerial," "clerical," and "routine" in nature or, rather, "managerial or entrepreneurial."¹⁰² Because the court found that the promoter's efforts post-investment were largely clerical or ministerial and that they did not have a material impact on the investors' profits, the investments did not satisfy the final *Howey* factor.¹⁰³ Such "ministerial" efforts included holding the policy, monitoring the insured's health, paying premiums, assisting an investor in reselling the investment, and the right to change the party designated as the beneficiary of the policy.¹⁰⁴

With regard to the second question, whether the efforts occurred pre-investment or post-investment, the *Life Partners* court concluded that pre-investment activities have less impact on the ultimate profitability of the investment and cannot by themselves satisfy the final *Howey* factor.¹⁰⁵ The court concluded that if the promoter's efforts are "impounded into the . . . purchase price of the investment, and if neither the promoter nor anyone else is expected to make further efforts that will affect the outcome of the investment, then the need for federal securities regulation is greatly diminished."¹⁰⁶ Thus, the *Life Partners* court was

97. *Id.* at 548.

98. *Id.* at 538.

99. *Id.* at 548 ("[I]t is the length of the insured's life that is of overwhelming importance to the value of the viatical settlements marketed by LPI.").

100. *Id.*

101. *Id.* at 545-48.

102. *Id.* (stating that "ministerial activities should receive a good deal less weight than entrepreneurial activities").

103. *Id.* at 545-46.

104. *Id.* at 545.

105. *Id.* at 548.

106. *Id.* at 547.

satisfied that because the post-investment functions of the promoters were largely ministerial, the viatical investments were not securities even though the promoter's pre-investment activities, like identifying and evaluating insurance policies, evaluating the insured, and negotiating the purchase price, were important to the investment's success and required some expertise.¹⁰⁷

The *Life Partners* court's pre-/post-investment distinction has been criticized by some courts as unsupported by *Howey*.¹⁰⁸ In disagreeing with the reasoning in *Life Partners*, the Eleventh Circuit contended that the *Howey* test is broad and flexible, that the proper focus is on substance over form, and that there is no support for a bright-line rule about whether a promoter's key profit-producing activities occur before or after investors join the venture.¹⁰⁹

There is broader agreement that if profit is anticipated predominantly because of the operation of market forces, market fluctuation, and other factors outside the promoter's control, the scheme is not an investment contract under *Howey*.¹¹⁰ When profits are dependent on market fluctuations and not on the managerial efforts of the promoter, the final *Howey* factor is less likely to be satisfied.¹¹¹ A key question, therefore, in determining whether an entity is issuing securities is whether the investors are truly dependent on the efforts of the promoter or on market fluctuations outside the promoter's control.

B. Exemptions

There are several exemptions to registration under the Securities Act. While there are multiple exemptions, I will focus on two exemptions that may be most attractive to community solar projects: Regulation D and the Intrastate exemption. Exemptions are provided in situations where the onerous disclosure and reporting requirements of the Securities Act are not necessary due to the sophistication of investors, because the amount of money being raised is small, because the issuer is the government or some other heavily regulated entity, or when state

107.*Id.*

108. *See, e.g.,* S.E.C. v. Mutual Benefits Corp., 408 F.3d 737, 743 (11th Cir. 2005) (stating, “[w]hile it may be true that the “solely on the efforts of the promoter or a third party” prong of the *Howey* test is more easily satisfied by post-purchase activities, there is no basis for excluding pre-purchase managerial activities from the analysis”); *see also* Reising v. Dep’t of Corrections for the State of California, 50 Cal. Rptr. 3d 386, 396 (Cal. Ct. App. 2006); *Wuliger v. Eberle*, 414 F. Supp. 2d 814, 821-22 (N.D. Ohio 2006).

109. *Mutual Benefits Corp.*, 408 F.3d at 743.

110. *See, e.g., id.* at 744 n.5; *Noa v. Key Futures, Inc.*, 638 F.2d 77, 79-80 (9th Cir. 1980).

111. *Noa*, 638 F.2d at 79-80 (because profits were based on fluctuations in the national silver market and not on the managerial expertise of the promoters, the investments were not securities).

securities laws are adequate to protect investors.

First, Regulation D provides exemptions for small offerings and private placements.¹¹² In particular, Rules 504 and 505 may be useful to community solar projects. Rule 504 provides an exemption for offerings of securities up to \$1 million within one twelve-month period.¹¹³ Rule 505 provides an exemption for offerings of securities totaling up to \$5 million in a twelve-month period, as long as they are sold to no more than thirty-five unaccredited investors; an unlimited number of accredited investors is permitted.¹¹⁴ Accredited investors are defined by Rule 501(a) to include institutional investors like banks, people whose net worth exceeds \$1,000,000, and individuals whose income has exceeded \$200,000 for the past two years.¹¹⁵

The SEC prohibits general advertising and solicitation under Rules 504 and 505.¹¹⁶ In addition, securities issued under Rule 504 are “restricted” securities meaning they may not be re-sold unless they are registered.¹¹⁷ Securities issued under Rule 505 are also restricted and may not be resold. There are two ways to avoid these restrictions on advertising and resale: (1) by registering the offering under a state securities law that requires public filing and distribution of disclosure documents to potential investors or (2) by limiting the offering to “accredited investors.”¹¹⁸

Second, the intrastate exemption applies to securities issuances that are confined to one state: they must be promoted by in-state issuers to in-state residents.¹¹⁹ The intrastate exemption is based on the premise that state securities laws are sufficient to regulate intrastate offerings; offerings under the intrastate exemption are still subject to state securities law in the state in which they are issued.¹²⁰ Further, the intrastate exemption, like all exemptions, does not remove the transaction from the anti-fraud provisions of the Exchange Act like Rule 10b-5.¹²¹ For clarity, the SEC has adopted Rule 147 to help companies and courts interpret the intrastate exemption; Rule 147 clarifies such terms as “resident” and “doing business” for purposes of the exemption.¹²²

112. 17 C.F.R. §§ 230.501-508 (2011).

113. *Id.* at §§ 230.504(a), (b)(2).

114. Q&A: Small Business and the SEC, SEC. AND EXCH. COMM’N, <http://www.sec.gov/info/smallbus/qasbsec.htm#eod6> (last visited Dec. 10, 2011).

115. 17 C.F.R. §§ 230.501(a)(5), (6).

116. *Id.* at § 230.502(c).

117. *Id.* at § 230.502(d).

118. *Id.* at §§ 230.504(b)(1)(i), (iii).

119. 15 U.S.C. § 77c(a)(11) (2011); *id.* at § 230.147.

120. HAROLD S. BLOOMENTHAL & SAMUEL WOLFF, 3 SECURITIES AND FEDERAL CORPORATE LAW § 3:5 (2d ed. 2003).

121. *Id.*; 17 C.F.R. § 240.10b-5 (2011).

122. BLOOMENTHAL & WOLFF, *supra* note 120.

III. THREE STRATEGIES

In light of the above discussion, the organizers of community solar projects cannot ignore the securities laws but instead must make informed and strategic decisions about how to organize their entities. There are three possible strategies community solar projects could pursue: first, attempt to organize the community solar project in a way that shares or memberships will likely not be considered securities under state or federal law; second, attempt to fit one of the exemptions; and third, register as securities but try to reduce transaction costs. This section will first discuss the details of each strategy and then analyze each strategy in light of the policy tension between the protection of investors from unscrupulous promoters and broadening participation in the use of renewable energy sources.

The first strategy is for community solar projects to organize themselves so that they might avoid regulation under the securities laws altogether. To do this, they should try to avoid one or more prongs of the *Howey* test. As discussed above, *Howey* defined a security as an investment of money in a common enterprise with an expectation of profit based solely on the efforts of a third party. Of note, the expectation of profit can be satisfied by the anticipation of any tangible economic benefit. According to a recent letter from the Colorado Department of Regulatory Agencies, Division of Securities, to a Denver lawyer who had requested an interpretative opinion on the Colorado solar gardens legislation with regard to the securities issue,

[T]he transaction could be structured so that the primary motive for the subscriber's participation . . . is to receive the net metering credit against the subscriber's bill. . . . [T]he Staff believes that the receipt of a net metering credit is a tangible economic benefit to the subscriber, and in a broader sense, a profit.¹²³

Under the first three *Howey* factors, just like the Florida citrus groves in the seminal case, the sale of solar panels in a community solar project would qualify as an issuance of securities; consumers will have invested money in a common enterprise with the expectation of economic benefit.

The final factor under the *Howey* test, whether profit is expected based solely on the efforts of others, is where community solar projects may find some degree of play. If the subscriber does not participate in managerial decision-making, and if the community solar project promoter makes entrepreneurial and not merely ministerial efforts that result in profits, this final factor will probably be satisfied. But as

123. Community Solar Gardens, Colo. Div. of Sec., File No. A 011-001 (Sept. 22, 2010), available at <http://www.solargardens.org/ColorSecuritiesReport.pdf> (interpretive opinion).

articulated regarding LLC memberships in *Robinson v. Glynn*, if a subscriber or member is sufficiently involved in the management and decision-making of the project, the subscription or membership will probably not be considered a security requiring registration under the 1933 Act.¹²⁴ Thus, one way a community solar organization could address the securities issue would be to involve all members or subscribers in day-to-day management and decision-making.

Alternatively, if the anticipated profits are due to factors other than the efforts of the community solar project developers, such as energy prices and the efficiency of the available PV technology, the project's subscriptions may not be considered securities. Therefore, another way to avoid regulation under the securities laws might be to clearly minimize the extent to which the project's return on investment is materially affected by the project's developers. Instead, the project's developers would be limited to a "ministerial" or administrative role.

There could be significant practical problems with avoiding the securities laws by involving community solar subscribers in managerial efforts. First, while it might be feasible to involve a small number of subscribers in management decisions, if the number of subscribers grew large enough to make the project financially attractive for small subscribers and to create economies of scale, it would be practically difficult to effectively involve each one in management decisions. Second, one of the benefits of community solar projects is that they take the day-to-day hassle of maintaining solar panels *out* of the hands of the subscribers who do not wish to bother with the details.

The second solution may be more viable for community solar. Instead of structuring a community solar project as the sale of LLC memberships, it could be structured as the sale of solar panels from the community solar project directly to the consumers, with an ongoing arrangement whereby the organizers would be limited to administrative and maintenance tasks. Because the return on investment for community solar is heavily dependent on energy prices, and, to a lesser degree, on the efficiency of the solar panels used, an argument could be made using the reasoning in *Mutual Benefits Corp.* and *Noa* that community solar shares' profits are more dependent on market fluctuation and factors outside of the promoters' control than they are on the managerial expertise of the promoters. Therefore, they should not be regulated as securities. The success of this strategy would depend on courts' fact-intensive analysis of the level of managerial versus clerical or ministerial efforts and the relation of those efforts to the project's expected profits. In addition, if the court agreed with the reasoning in *Life Partners*, it

124. *Robinson*, 349 F.3d at 174.

would also look to see whether the significant managerial decision-making had primarily been conducted pre-investment.

As indicated by the foregoing discussion, 100-percent certainty that community solar subscriptions are not securities is difficult to establish. To add to the uncertainty, the Colorado Department of Regulatory Agencies, Division of Securities, letter referenced above articulated the view that shares in community solar gardens under the Colorado solar gardens legislation would most likely be securities.¹²⁵ This uncertainty is a significant problem for both investors and community solar developers. If state or federal legislators or rulemaking bodies were to take up the issue, they could provide more certainty by establishing clear rules whereby community solar projects would be assured they are not issuing securities.

Finally, there is the question of how this first strategy fares in light of the competing policies of protecting investors and encouraging wider adoption of renewable energy sources. On one hand, the option of moving forward with a community solar project without the added hassle and expense of registration with the Securities and Exchange Commission would save time; it would also lessen costs for subscribers, which would increase both the potential rate of return and the number of consumers willing to purchase subscriptions. But on the other hand, one of the primary purposes of the Securities Act is to provide disclosure of important information about investment opportunities so that potential investors would be enabled to evaluate their merits; under the 1934 Act, there are severe penalties if disclosure statements are found to have been fraudulent. If a community solar project were to avoid regulation under the securities laws, there would be less public information available to consumers about the project and fewer protections against fraudulent statements. While solar developers could voluntarily choose to make such information available to the public or to subscribers, the lack of disclosure requirements and accountability could attract unscrupulous actors.

A second strategy would be to organize community solar projects to fit one of the exemptions articulated above. Regulation D may be an attractive option because its \$1 million limit on the amount raised would be plenty for many small community projects. And for residents remaining in their homes for at least two years, the restriction on resale would not be a problem; however, the two-year restriction on re-sale would preclude renters who move each year from participating. More significantly, the restriction on general advertising and solicitation would prevent a community solar project from distributing information widely

125. Community Solar Gardens, *supra* note 123.

through the mail, online, or on television; information would only be available via word of mouth, private meetings, or personal relationships. This latter restriction would be a great impediment to the success of young community solar projects with little exposure in the community.

The intrastate exemption may be attractive for community solar projects whose investors are located within one state. University Park Solar was able to take advantage of this federal exemption; thus, the entity was able to focus only on complying with Maryland securities rules. Therein lies an example of the major drawback to the intrastate exemption: even if a project qualifies for the federal intrastate exemption, it must still comply with state securities laws. State governments could potentially assist community solar projects by creating a special category under state law for community solar, enabling projects that take advantage of the federal intrastate exemption a clear, perhaps more streamlined process through which to register under state securities laws.

Ultimately, projects that qualify for one of the federal exemptions are subject to the ongoing uncertainty that if one element of the exception is breached, the protection of the exception will fail and the project will find itself subject to all of the requirements of the 1933 Act. This risk would need to be weighed according to the facts and circumstances of each project: how likely would such a breach be, and how damaging to the community solar project would it be to suddenly require compliance with the 1933 Act?

Finally, how does this second strategy fare with regard to the protection of investors and the broader use of renewable energy? Fitting into an exemption would ultimately protect community solar projects from much of the expensive and time-consuming process of registration. In addition, this option is better at protecting investors: because entities that qualify for an exemption are technically issuing securities, consumers enjoy the protections of the anti-fraud provisions of the 1934 Act. But the limits on each exemption might make it more difficult for community solar projects to achieve widespread consumer adoption. For example, without advertising under Regulation D it would be difficult for community solar projects to reach out to potential subscribers.

As a third strategy, community solar projects could choose to register their memberships as securities but attempt to recreate that process in multiple community solar projects around the state, region, or country. A project could create a workable model, including the legal and business structure but also including SEC registration documents and processes. The project could then create an economy of scale with that model by sharing it with other projects, thereby reducing transaction costs. Because much of the cost of dealing with securities laws comes from the time and expense associated with the initial registration and

disclosure, if that process could be streamlined and standardized for community solar projects around the project's state or region, the expense of each registration would fall.

It is possible to register under the 1933 Act and remain unaccountable to the ongoing disclosure requirements required by the 1934 Act. If a project meets one of two thresholds—less than 300 shareholders or less than 500 shareholders with less than \$10 million in assets—that project will only be required to disclose under the 1934 Act for one year.¹²⁶ For small community solar projects, these thresholds are reasonable; recall that the University Park Solar project cost \$130,000 to install on behalf of its 30 members. For smaller community solar projects, this may represent the best compromise strategy to resolve the tension between providing certainty and stability to community solar projects and protecting investors. Some commentators have written that registration with the SEC would be positive for Colorado's community solar gardens:

In general, [the fact that shares in solar gardens are likely securities] is probably a good thing, since it provides a strong legal framework under which regulators will be able to sanction unscrupulous CSR developers who might be tempted to cold-call unsophisticated utility customers and over-promise the benefits of a small subscription in a Solar Garden.¹²⁷

Likewise, the Colorado Deputy Securities Commissioner, Gerald Rome, wrote that while

the development of [community solar gardens] in Colorado is in the public interest and intended to broaden participation in utility customer ownership of small solar generation . . . this laudatory purpose does not eliminate the incentive for fraudulent or deceptive practices by those who devise the countless and variable schemes through the use of the money of others on the promise of profits.¹²⁸

The fact remains that registration with the SEC is costly and would probably diminish returns for community solar consumers. But ultimately, this last strategy could best protect consumers and investors, offer certainty to the developers of community solar projects, and increase the potential for widespread adoption of a powerful renewable energy model.

126. Q&A: Small Business and the SEC, *supra* note 114.

127. Konrad, *supra* note 60.

128. Community Solar Gardens, *supra* note 123.

CONCLUSION

Community solar is an innovative strategy to place solar energy in the hands of larger numbers of consumers. But most community solar models run the risk of implicating federal and state securities laws, important disclosure rules that are designed to protect small investors from unscrupulous promoters. Community solar projects have been bold in refusing to back down in the face of difficult legal hurdles like this one; instead, they are right to seek innovative solutions. This Note has articulated the pros and cons of three different strategies to address this particular problem, and has demonstrated that there is no easy solution to the tension between this type of innovation and the goal of protecting investors. The optimal strategy will depend on the specific facts and circumstances, goals, and local laws for each community solar project. Regardless of the strategy chosen, this problem presents an opportunity for federal or state government to create clarity in the law for community solar projects. It also provides a chance for legal advisors to help community solar projects organize themselves to avoid the securities laws or create economies of scale with their securities registrations. Ideally, the strategies chosen will enable community solar projects to grow in number and enjoy success for years to come.

CONSUMER CHOICE: IS THERE AN APP FOR THAT?

DAVID CLINE*

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INTRODUCTION

The popular commercial for Apple, Inc.'s iPhone suggests there is an App for everything. Mostly, they are right: there are around 425,000 Apps and counting for their cutting-edge cell phone.¹ But the business practices of Apple, AT&T Mobility, Inc., and their industry companions make it clear that consumer choice is not available for download. While unprecedented capabilities of the iPhone and other mobile phones exist, consumers are strangled by carriers' anti-consumer and anti-innovation practices. This is not to say that carriers are acting malevolently; rather,

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1. From the App Store, APPLE, INC., <http://www.apple.com/iphone/apps-for-iphone> (last visited Dec. 10, 2011).

they believe it is in their economic interest to restrict features and tie consumers to long-term contracts, among other anti-competitive behaviors. This Note advocates against this contention, arguing that openness and competition lead to a better outcome for both consumers and carriers.

This Note begins with an examination of the current market conditions for U.S. wireless players. Part I explores the current market in wireless telecommunications and the attendant business model in the United States, focusing on the use of technology and contracts to lock in subscribers. Part II concludes that this model hurts consumer choice and stifles innovation. Part III discusses what government entity is best situated to make positive changes to the system. Part IV advocates for a new regulatory framework based on the most capable entity and sensible policy changes, and then turns to argue it is in consumers' and carriers' interests to accept change.

Moreover, the wireless market is evolving into delivery of many services—Internet, games, music, and more. This presents regulators with a unique opportunity to steer the industry to an optimum outcome, without quashing competition and innovation. This Note operates under the assumption that competition in our market economy is good. Judge Learned Hand said it best: “immunity from competition is a narcotic, and rivalry is a stimulant, to industrial progress.”² Economic theory and proclivities aside, empirical studies suggest that, in the wireless industry, customer satisfaction, loyalty, and retention are in the interests of the providers.³ Satisfaction with the wireless service is a strong predictor of loyalty and performance of the service is predictive of satisfaction.⁴ Therefore, competition spurs innovation and choice. Competition and choice improve services and prices to consumers. The improvements offer more satisfaction to the consumers, who then remain loyal to services they are happy with. By improving competition, consumer choice and utility is improved, as well as the retention of customers for the carriers.

I. THE CURRENT WIRELESS TELECOMMUNICATIONS MARKET

It should be no surprise that four large companies dominate the wireless market: AT&T, Verizon, Sprint, and T-Mobile.⁵ There are small

2. *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 427 (2d Cir. 1945).

3. Abdolreza Eshghi et al., *Determinants of Customer Loyalty in the Wireless Telecommunications Industry*, 31 TELECOMM. POL'Y 93, 94 (2007).

4. *Id.*

5. *AT&T to Beat Verizon as Top Wireless Carrier in Second Quarter*, WIRELESS INDUSTRY NEWS (Aug. 10, 2010), <http://www.wirelessindustrynews.org/news-aug-2010/2063-081010-win-news.html>.

regional carriers, but in terms of national power, they are insignificant. This is partly evidenced by the Herfindahl-Hirshman Index (HHI), the market concentration index used by the Department of Justice Antitrust Division. Commonly used in merger cases with concerns of a market becoming too concentrated or noncompetitive, the HHI is a good indicator of competition in a given market. In the wireless telecom market, the HHI is estimated between 2000 and 6000.⁶ Any score of more than 1800 raises significant concerns.⁷ When considering the wireless broadband market, Professor John Blevins argues that the market has become increasingly consolidated, with six firms in the year 2000, down to four major firms today.⁸ These are, of course, the four big wireless carriers. He further argues that the big four have used laws, even those that are facially neutral, to protect and expand their market position. Moreover, these large wireless firms have used their size to increase barriers to entry and keep wireless service as a complementary, rather than substitute, good. Consequently, it seems clear that the big companies are aware of their clout, and not afraid to use it.

Therefore, each of the four large carriers wields a tremendous amount of power in the market. AT&T and Verizon make up approximately 60% of the market share, making them the largest two.⁹ They protect market control in at least three ways: using technology to

6. Tim Wu, *Wireless Carterfone*, 920 PLI/Pat 413, 419 (2007) (citing multiple studies that calculated the HHI in the mid-2000's). As of the writing of this article, AT&T is trying to buy T-Mobile. Anton Troianovski et al., *AT&T's T-Mobile Deal Teeters*, WALL ST. J., Nov. 25, 2011, available at <http://online.wsj.com/article/SB10001424052970204452104577057482069627186.html>. Normally, these types of mergers have passed regulatory hurdles. However, AT&T is encountering resistance. The Department of Justice filed suit to enjoin the merger under antitrust issues. Moreover, because it is a telecommunications merger, the FCC also reviews it. In November 2011, AT&T withdrew its petition to the FCC to focus on fighting the DOJ suit as well as reserved a \$4 billion accounting charge for the break up fee payable to T-Mobile should the merger be denied. This merger would lead to further market concentration and presents significant consumer concerns. See Eyder Peralta, *Would AT&T Merger With T-Mobile Hurt Consumers?*, npr.com (Aug. 31, 2011), <http://www.npr.org/blogs/thetwo-way/2011/08/31/140089442/would-an-at-t-mobile-merger-hurt-consumers>. Moreover, there is evidence that AT&T is more concerned with killing a competitor rather than expanding coverage as it argues. An internal document from AT&T was inadvertently filed with the FCC stating that AT&T could build out the network for a tenth of the purchase price. Kari Bode, *Leaked AT&T Letter Demolishes Case for T-Mobile Merger*, DSLREPORTS.COM (Aug. 12, 2011), <http://www.dslreports.com/shownews/Leaked-ATT-Letter-Demolishes-Case-For-T-Mobile-Merger-115652>. The likelihood of success of the merger remains unclear, however, and is something that consumers should follow closely.

7. For more information on HHI, see generally U.S. DEP'T OF JUSTICE, *Concentration and Market Shares*, in HORIZONTAL MERGER GUIDELINES 1.5 (1992), available at http://www.justice.gov/atr/public/guidelines/horiz_book/15.html.

8. John Blevins, *Death of the Revolution: The Legal War on Competitive Broadband Technologies*, 12 YALE J.L. & TECH. 85 (2010).

9. *Id.* at 93.

control what phones are on the network, selling phones with contracts and subsidies, and making the transaction costs of switching to a competitor high.

There are two main technologies used for cell phones: Code Division Multiple Access (CDMA) and Global System for Mobile Communications (GSM).¹⁰ Verizon and Sprint both use CDMA. AT&T and T-Mobile use GSM. CDMA uses a serial number that is required to interface with the network. In essence, the carrier knows exactly what phone is on the network because of the serial number. Consequently, Verizon, for example, is the gatekeeper of all phones on its network.¹¹ Sprint reluctantly does allow non-Sprint-sold devices on its network but they discourage this by refusing technical support and offering other perks for playing by the rules.¹²

Conversely, GSM uses Subscriber Identity Module (SIM) cards to connect. The SIM card provides the interface between the phone and the network. GSM accounts for 85% of the worldwide market for cell phone technology.¹³ As a result, travelers could simply switch out SIM cards when arriving in another country rather than paying roaming charges. This is most easily done with prepaid SIM cards where no contract is necessary. While this sounds simple—and it is—the current U.S. carriers prevent you from doing this through a process called locking. The software on the phone can be locked so it only works with a single carrier's SIM card. Consumers seemingly want the flexibility the SIM card offers and a small industry has developed of shops that hack the software and unlock the phone for you for a fee or allow you to purchase an already unlocked phone from the shop. However, these shops are little known. As a token compromise, some carriers, namely Sprint, will give the unlock code to the subscriber once all the contract terms have been fulfilled.¹⁴ However, AT&T refuses to give unlock codes to iPhone users—the only phone that has this distinction on their network.¹⁵

10. With the recent release of the Verizon iPhone, a direct comparison of how the different technology affects the features of the same phone, namely the Apple iPhone, see Dusan Belic, *Apple Details Differences Between CDMA and GSM iPhones*, INTOMOBILE (Feb. 19, 2011), <http://www.intomobile.com/2011/02/19/apple-differences-cdma-gsm-iphones>. For information on GSM v. CDMA generally, see John Herrman, *Giz Explains: What's the Difference Between GSM and CDMA*, GIZMODO (Sept. 14, 2010), <http://gizmodo.com/#!5637136/giz-explains-whats-the-difference-between-gsm-and-cdma>.

11. Wu, *supra* note 6, at 426.

12. Michael T. Hoeker, *From Carterfone to the iPhone: Consumer Choice in the Wireless Telecommunications Marketplace*, 17 COMMLAW CONSPECTUS 187, 203 (2008).

13. Timothy J. Maun, *iHack Therefore iBrick: Cellular Contract Law, the Apple iPhone, and Apple's Extraordinary Remedy for Breach*, 2008 WIS. L. REV. 747, 755 (2008).

14. Hoeker, *supra* note 12, at 203-04.

15. Chloe Albanesius, *AT&T Deal to Let Users Unlock Phones, But Not iPhones*, PC MAGAZINE (May 26, 2010), <http://www.pcmag.com/article2/0,2817,2364211,00.asp>; Mike Dano, *Under Settlement, AT&T to Unlock Phones—But Not the iPhone*, FIERCE WIRELESS

However, industrious consumers are not deterred and have developed a way of “jailbreaking” the iPhone: a software program that changes some of the code in the iPhone software to unlock it and open it up to other GSM carriers and other third party (non-Apple-approved) apps.¹⁶ This spurred much gray market activity for the iPhone, especially in China where phones were bought in the U.S., then immediately unlocked and sold for two to three times the price in China.¹⁷ This led some to comment on the “missing iPhones” phenomenon.¹⁸

Not only does the technology allow the carriers to control the market at the point of sale, but the current business model in the U.S. is also that the carriers sell the phones with a required contract. The carrier subsidizes the phone and then recoups that subsidy throughout the contract term (usually 2 years). This means that the consumer must trade fewer choices of phones and being locked into a contract for lower upfront cost. In other words, carriers “enforce customer loyalty.”¹⁹ A byproduct of this model is that carriers exert control over the phone manufacturer—sometimes even requiring the manufacturer to cripple features of the phone that the carrier does not approve of. Not only does this hurt choice but it also stifles innovation by punishing creation of cutting-edge features.²⁰

II. IN THE CURRENT MARKET, WE LOSE

Competition is good. It leads to greater choice in a market for consumers and advances innovation of essential communication technologies. The current cellular market is at best an oligopoly; at worst, a cartel. As noted, the big four carriers use the technology to restrict choice and as a result cause *de facto* vertical integration. Wireless consumers are increasingly unhappy with the service yet unable to choose an alternative.²¹ This market shift is accompanied by the

(May 25, 2010), <http://www.fiercewireless.com/story/under-settlement-t-unlock-phones-not-iphone/2010-05-25>.

16. Early responses to this from Apple included releasing a software update that “bricked” the phone if it had been unlocked. The effect of this was to destroy the product. Then Apple refused to honor the warranty on the phone, prompting lawsuits. Maun, *supra* note 13, at 753; Ian Shapira, *A Black Market for iPhone Apps Takes Off*, WASH. POST, Apr. 8, 2011, at A11; Marin Perez, *iPhone 3G Reportedly Unlocked*, INFORMATIONWEEK.COM (Dec. 17, 2008), http://www.informationweek.com/news/personal-tech/smart-phones/212500994?cid=RSSfeed_IWK_All.

17. Hoeker, *supra* note 12, at 198-99.

18. *Id.*

19. Maun, *supra* note 13, at 755.

20. See Wu, *supra* note 6, at 445-46.

21. Amit M. Schejter et al., *Policy Implications of Market Segmentation as a Determinant of Fixed-Mobile Service Substitution: What it Means for Carriers and Policy Makers*, 27 TELEMATICS AND INFORMATICS 90, 100-01 (2010).

demographic shift as wireless consumers become less affluent and younger.²² Compared to land line services, wireless services are now becoming viewed as a substitute, rather than complementary, service, meaning that these younger, lower-income consumers are choosing wireless over wire line but are not pleased with the choice of services.²³

The four major carriers use a contract model that locks in consumers for a specified term, usually two years. Non-contract plans have grown in popularity and consumers experience high levels of satisfaction with both monthly and pay-as-you-go plans.²⁴ Verizon, AT&T, and T-Mobile offer pay-as-you-go, or prepaid, plans on some phones.²⁵ The prepaid plans offered by these three large carriers are restricted to only a few phones and consumers view the plans as not the best deals on non-contract plans.²⁶ In the contract model, those who want to switch carriers or stop service may be subject to termination fees in the hundreds of dollars.²⁷ Since *Gatton v. T-Mobile*, discussed below, carriers prorate the termination fee, but the punishment is clear.²⁸ These termination fees raise the transaction cost of abandoning service with one major carrier to go to another. They act as a deterrent and ensure that whether the contract term is fulfilled or not, the subsidy given with the phone at the time of sale is recouped. These fees remain a problem; even if a consumer jailbreaks the phone, they cannot switch carriers unless they continue to pay the contract they desire to break or pay the termination fee. Thus, even if the consumer is adding a new carrier, the old carrier hangs on one way or another.

A cottage industry developed to unlock phones. When consumers jailbroke their iPhones, Apple responded with a software update that “bricked” the phones, rendering the phone useless.²⁹ Litigation resulted because Apple refused to honor the warranty. Indeed, this is not unique

22. *See id.*

23. *Id.*

24. 2011 U.S. WIRELESS NON-CONTRACT CUSTOMER SATISFACTION INDEX STUDY, J.D. POWER & ASSOC. (2011), available at <http://www.jdpower.com/news/pressRelease.aspx?ID=2011035> (Boost Mobile, a carrier that offers a non-contract monthly plan, is the highest ranked carrier of its kind.).

25. *See* each carrier's website: SPRINT, http://shop.sprint.com/mysprint/shop/plan/plan_wall.jsp?INTNAV=ATG:HE:Plans; VERIZON, <http://www.verizonwireless.com/b2c/plans/?page=prepaid>; AT&T, <http://www.wireless.att.com/cell-phone-service/go-phones/index.jsp#fbid=j1QSyCB4NmE>; T-MOBILE, <http://prepaid-phones.t-mobile.com/pay-as-you-go-plans>.

26. J.D. POWER & ASSOC., *supra* note 24.

27. *See, e.g.,* Early Termination Fee, SPRINT, http://shop2.sprint.com/en/services/termination_fee/early_termination_fee.shtml (last visited Dec. 10, 2011) (“early termination fee of up to up to [sic] \$350/line for Advanced Devices & up to \$200/line for all other devices”).

28. *See id.*; *infra* III (B).

29. Maun, *supra* note 13, at 753.

to iPhones; Microsoft Mobile OS also bricks if it is unlocked under certain conditions.³⁰ Complaints of Android phones being bricked are also widespread.³¹

Consumers are also punished with a dearth of choice of phones. Manufacturers are bullied by carriers into crippling phones. Professor Wu argues that phones were crippled in at least four ways: call timers, photo sharing, Bluetooth, and WiFi.³² Carriers coerced developers to take out call timers so that consumers could not tell how long they were on the phone or how many minutes they had used in a given month, and thus preventing an independent record for billing purposes.³³ As phones developed cameras, carriers wanted to force consumers to subscribe to photo-sharing sites that cost a monthly fee rather than allowing simple emailing from the phone for free (excluding the charges for data of course, which were also charged for the photo-sharing website upload).³⁴ Bluetooth is technology that allows connectivity at short distances among devices. This technology undermined the carriers' practices of photo sharing and other file transfer and printing capabilities.³⁵ WiFi was also restricted because the subscriber would avoid using the data services of the carrier, thus cutting into carrier revenue.³⁶

Notably, the Nokia e61 phone was released in Europe in 2006 with full capabilities.³⁷ The e61 was touted as the flagship product and a serious challenger to the Blackberry handset.³⁸ However, it never made it to the U.S.; only its crippled offshoot, the e62, did.³⁹ The e62 did not have WiFi or other features advantageous to consumers.⁴⁰ Much of the fear of the U.S. carriers centered on the ability of the e61 to utilize Voice over Internet Protocols (VoIP)⁴¹ calls through WiFi without using the

30. *Beware Windows Phone 7 Become a Brick After the Unlock with Chevron WP7*, MOBILE.DOWNLOADATOZ (Nov. 27, 2010), <http://mobile.downloadatoz.com/news/953,beware-windows-phone-7-become-a-brick-after-the-unlock-with-chevron-wp7.html>.

31. Devin Coldewey, *Droid-X Actually Self-Destructs if You Try to Mod It*, TECH CRUNCH (July 14, 2010), <http://www.mobilecrunch.com/2010/07/14/droid-x-actually-self-destructs-if-you-try-to-mod-it/>.

32. Wu, *supra* note 6, at 427-30

33. *Id.* at 427.

34. *Id.* at 427-28.

35. *Id.* at 427.

36. *Id.* at 428-29.

37. *Id.* at 427.

38. *Id.*

39. *Id.*

40. *Id.*

41. VoIP utilizes an Internet connection to deliver voice phone service. Internet VoIP usually goes through a computer, although with smartphones using WiFi, it would be possible to use that WiFi connection for VoIP service. See Voice-Over-Internet Protocols, FEDERAL COMMUNICATIONS COMMISSION, <http://transition.fcc.gov/voip/> (last visited Dec. 10, 2011). The most popular software-based VoIP service is Skype. Nadeem Unuth, *Software-Based*

data or phone services of the carrier.⁴²

The carriers were continuing business as usual until Apple, Inc. wanted to find a carrier for its iPhone. Apple was unique because it was an electronics giant that wanted to control the features and aftermarket capabilities of the phone. Verizon dismissed them. AT&T agreed under an exclusivity contract, the terms of which are not public.⁴³ The deal is unprecedented because it provides for revenue sharing between AT&T and Apple at an estimated \$10-18 per iPhone per month.⁴⁴ While the iPhone was an important step toward consumer choice because it stood up to the practices of the carriers, it was more of a half-step because Apple sought control as well. For example, the iPhone software does not support Adobe Flash, thus blocking access to some web sites.⁴⁵ Also, more importantly, Apple restricts the ability of the consumer to load Apps on the phone because each App must be approved by Apple unless the iPhone has been jailbroken, in which case the consumer can access a third-party App market such as Cydia.⁴⁶ In order to get approval from Apple, the developer must purchase Apple's Software Development Kit (SDK).⁴⁷ The developer must submit to Apple's rules and Apple gets 30% of all revenue.⁴⁸ Notably, Apps that modify or replace Apple's "Native" Apps, such as email or web browsers, are not allowed. Despite this, the iPhone was long seen as the champion of the mobile phone development market.⁴⁹

VoIP Services and Applications, ABOUT.COM, <http://voip.about.com/od/voipsoftware/aSoftphoneList.htm> (last visited Dec. 10, 2011). Vonage challenges many of the wire line providers for home service that connects to a standard phone. VONAGE, <http://www.vonage.com> (last visited Dec. 10, 2011).

42. Wu, *supra* note 6, at 430.

43. Hoeker, *supra* note 12, at 197-98.

44. *Id.*

45. Steve Jobs, *Thoughts on Flash*, APPLE.COM (Apr. 2010), <http://www.apple.com/hotnews/thoughts-on-flash/>.

46. Cydia is an App store much like what Apple runs but without Apple's restrictions and can only be accessed by a user who has jailbroken the iPhone. This means that any developer can sell an iPhone user an App, and since the phone has been jailbroken, the restrictions placed on iOS by Apple disappear. Cydia is therefore a competitor to the AppStore, albeit with some risk to the user because to access it, the user would need to break away from Apple. *See Cydia is Debian APT on the iPhone*, MODMYI.COM, <http://modmyi.com/cydia/search.php> (last visited Dec. 10, 2011).

47. iOS Developer Program: 1. Develop, APPLE DEVELOPER, <http://developer.apple.com/programs/ios/develop.html> (last visited Dec. 10, 2011).

48. iOS Developer Program: 3. Distribute, APPLE DEVELOPER, <http://developer.apple.com/programs/ios/distribute.html> (last visited Dec. 10, 2011).

49. Brad Reed, *SDK Showdown: Apple iPhone v. Google Android*, PCWORLD.COM (Apr. 23, 2008), http://www.peworld.com/article/145035/sdk_showdown_apple_iphone_vs_google_android.html; see also David Pogue, *An Open Question: Is Open Source Better?*, SCIENTIFIC AMERICAN.COM (Jan. 31, 2011), <http://www.scientificamerican.com/article.cfm?id=an-open-question> (expressing uncertainty of which model – the iPhone or Android – is better for consumers and what leads to the large

The introduction of Google's Android operating system has also challenged practices as usual. The Android system is unique because it is based on an open-source platform.⁵⁰ Open-source programs are software offered with the source code open to the users to use and modify, creating a customizable product.⁵¹ The Linux operating system (on which Android is based) is an example of this in the personal computer world. Android licenses code to developers under the Apache Software License 2.0 and requires individual and corporate developers to sign a Contributor License Grant.⁵² But, as with Apple and the iPhone, Google takes a portion of revenue when using its marketplace. Google's entrance into the phone operating system market provides important competition to Apple and provides a customizable platform for the consumer.⁵³ Unfortunately, the consumer is still strangled by the carriers as the cell phone becomes more than just a phone.

Technology is certainly the most advanced it has ever been. Each phone has become the "third screen."⁵⁴ But if the carriers continue to dictate the terms of consumer contracts and manufacturer features, innovation will suffer. This is already a reality in the way that carriers treat media services and in what is known as the "walled garden restriction."⁵⁵ This restriction essentially uses the technology to lock in the consumer to the content that is approved by the carrier and the phone manufacturer. A notable example is the Apple AppStore. The iPhone can access the many thousands of Apps available for free or for a fee. On its

sales of both).

50. About the Android Open Source Project, ANDROID OPEN SOURCE PROJECT, <http://source.android.com/about/index.html> (last visited Dec. 10, 2011).

51. The current hot topic in the technology world is open-source v. proprietary software. Proprietary software is developed by companies that allow use based on strict licenses (e.g. Microsoft Office). All software is built on source code, from which the application is filled out. Instead of one company developing their source code and the applications, open source allows anybody to access the source code and make changes and customize it for their use. One advantage to this is that more secure applications can be built because of countless testers rather than one set of Quality Assurance employees. Open source also allows for more choice by the consumer because of the modifications made by the programming community. *See generally* Why Open Source?, REDHAT, <http://www.redhat.com/about/whyopensource/> (last visited Dec. 10, 2011). Regardless of the debate, open source is gaining prominence as evidenced by a NASA summit on the subject. Dan Rowinski, *NASA to Host Open-Source Summit*, GOV'T COMPUTER NEWS (Mar. 14, 2011), http://gcn.com/articles/2011/03/14/nasa-to-host-open-source-summit.aspx?sc_lang=en.

52. Licenses, ANDROID OPEN SOURCE PROJECT, <http://source.android.com/source/licenses.html> (last visited Dec. 10, 2011).

53. For a review of the two operating systems, *see* Priya Ganapati, *Apple iOS 4 v. Google Android 2.2: How Do They Stack Up?*, WIRED.COM (June 7, 2010), <http://www.wired.com/gadgetlab/2010/06/comparison-apple-versus-android/>.

54. Rob Frieden, *Lock Down on the Third Screen: How Wireless Carriers Evade Regulation of Their Video Services*, 24 BERKELEY TECH. L.J. 819, 820 (2009) (defining the "third screen").

55. *Id.*

face, this seems positive, but with a deeper look, it is quite restrictive. Apple requires that it approve all the Apps available for download while also taking 30% of the revenue generated from the App. Apple has been caught censoring content by not approving Apps that are against its image as a company.⁵⁶ Apple responded to circumvention of this by “bricking” phones. This downstream control is draconian and causes consumers to be unhappy with their wireless service.

Professor Freiden argues that wireless carriers should be subject to the same content nondiscrimination policies as cable companies. Because arrays of multimedia services are now available on cell phones, new problems arise for regulators. Currently, the Federal Communications Commission (FCC) seems incapable to classify carriers in multiple categories of regulation. As a result, they pick the least regulated “information services” classification rather than the heavily regulated “telecommunications” category.⁵⁷ This scheme ignores the fact that the carrier is using the telecommunications network to deliver the information services. As the carriers become increasingly vertically integrated (blending “content and conduit”⁵⁸), the loose regulatory scheme creates a situation where there is little oversight for wireless service carriers. The FCC has been inconsistent in applying this label to convergent services as evidenced by the treatment of VoIP service as a telecommunications class, thus placing strict regulation upon those companies.⁵⁹

Freiden goes on to argue that because the wireless industry, like the TV market, has anticompetitive characteristics, such as vertical and horizontal integration, carriers should be subject to the same type of regulation present in the TV market.⁶⁰ Specifically, the FCC’s Internet Policy Statement in 2005 disapproved of Comcast’s practice to restrict content and actually block access to customers that were using more data than others.⁶¹ Professor Wu points out that discrimination has already occurred in 3G broadband services.⁶²

56. See Jesus Diaz, *How Apple’s App Store Censoring Process Works*, GIZMODO.COM (Aug. 3, 2010), <http://gizmodo.com/#!5603174/how-apples-App-store-censoring-process-works> (“Even Steve Jobs publicly declared that he wanted a platform free of smut, despite the fact that you can use the Safari browser to access any web page full of true hard core porn.”). For concerns of these policies with respect to less racy subject matter, see Scott Rosenberg, *Apple as a News Censor: No Way to Run an App Store*, SALON.COM (Sept. 9, 2010), http://www.salon.com/technology/feature/2010/09/09/apple_apps_censorship_open2010. Contra Mitch Wagner, *Defending Apple’s App Store Censorship*, COMPUTERWORLD.COM (May 19, 2010), http://blogs.computerworld.com/16141/apple_censorship.

57. Freiden, *supra* note 54, at 824.

58. *Id.*

59. *Id.* at 824-25.

60. *Id.* at 822-23.

61. *Id.* at 840.

62. Wu, *supra* note 6, at 430-31.

Not only do these practices hurt consumers through lack of choice and lack of innovative products, carriers may lose as well. One study finds that customer satisfaction is a

strong determinant of customers' propensity to switch [carriers, which] implies that wireless service providers are better off in the long run if they improve customer satisfaction in an attempt to minimize customers' intention to switch providers. This is in sharp contrast to the widely used industry practice of 'locking-in' customers by restrictive contracts. Such a practice . . . constitutes a tactical short-term 'band-aid' solution to a more fundamental problem that requires a strategic response.⁶³

Carriers seem content to stifle change and their unwillingness suggests that external change is necessary in the form of regulation to encourage a more competitive market.

III. WHO CAN BE THE CONSUMER GUARDIAN?

The carriers, of course, have the power to change direction, but their practices have historically suggested that they are unwilling. Consumers alone have been unable to vote with their feet and force change. Therefore, it is up to the regulators to force carriers to adopt policies more conducive to consumer choice and innovation. But who is up to the task? The following examines past willingness to favor consumers, ability to address the current problems for the better, and who is best situated to make those changes now.

A. *The Federal Communications Commission*

The FCC is responsible for regulating the telecommunications market.⁶⁴ However, compared to traditional phone service or television, some commentators suggest that the FCC currently takes a laissez-faire approach toward wireless services, allowing carriers to run the show.⁶⁵ Professor Wu argues that the FCC can apply stricter regulation by analogy to the FCC's ruling in *Use of the Carterphone Device in Message Toll Telephone Service* in 1968.⁶⁶ The *Carterphone* decision

63. Eshghi, *supra* note 3, at 101.

64. Communications Act of 1934, 47 U.S.C. § 151 (2006).

65. See, e.g., Rob Frieden, *The FCC's Name Game: How Shifting Regulatory Classifications Affect Competition*, 19 BERKELEY TECH. L.J. 1275, 1314 (2004); ILLINOIS PIRG, CAN YOU HEAR US NOW: A REPORT ON HOW THE CELL PHONE INDUSTRY HAS FAILED CONSUMERS (2005), available at <http://www.illinoispirg.org/home/reports/report-archives/consumer-protection/consumer-protection/can-you-hear-us-now-a-report-on-how-the-cell-phone-industry-has-failed-consumers>.

66. *Use of the Carterphone Device in Message Toll Tel. Serv.*, 13 F.C.C.2d 420, 423

was a watershed moment for wire line services because it eliminated attachment restrictions by service providers. Before *Carterphone*, the AT&T monopoly claimed that only their approved phones could be connected to the network for security reasons. The decision allowed any phone to be plugged into the standard phone jack. Today, we take for granted that any phone can be plugged into any phone jack, or that any computer can be plugged into any Internet port. The provider is paid for their involvement in this scheme, but the consumer need not sign any long term contract or tell the provider when they would like to switch phones or computers. As Walt Mossberg states it: “This is the way digital capitalism should work.”⁶⁷ Many technological advancements can be traced back to the opening up of the networks for any developer to create products and sell them for use on any network. *Carterphone* was essential to this opening. As applied to wireless services, it would provide that any phone could be connected to any network, i.e. elimination of locking or similar methods. The FCC has the power to shift from the current queasiness toward wireless regulation to a *Carterphone*-esque scheme.

The mobile phone is now a mini computer and offers consumers myriad services, presenting problems for current regulatory schemes. The most recent overhaul of telecom policy was the Telecommunications Act of 1996, but technology has undoubtedly advanced beyond what those drafters could have imagined. As discussed, making a phone call is only a small part of what the mobile phone does. The multitude of services are called “converging technologies.”⁶⁸ The FCC has struggled to apply the legislative categories to the ever-morphing industry—and Congress has not offered much help.⁶⁹ Currently, the FCC must fit services offered into the regulatory classifications of radio or broadcasting, telecommunications service, cable service, or information service.⁷⁰ The FCC also tries to eliminate regulatory asymmetries—inconsistent regulations for similar services.⁷¹

However, there are other barriers to the FCC taking action. Courts have issued contradictory rulings in FCC regulatory classification cases, which are discussed below.

(1968) (Decision).

67. Walt Mossberg, *Free My Phone*, ALLTHINGS.COM (Oct. 21, 2007), <http://allthingsd.com/20071021/free-my-phone>.

68. See Frieden, *supra* note 65, at 1276.

69. *Id.*

70. *Id.* For complete definitions of these classifications, see 47 U.S.C §§ 153 (43), (46), (20) (2006); 47 U.S.C. § 522 (6) (2006).

71. Frieden, *supra* note 65, at 1276.

B. *The Judiciary*

The courts have been inconsistent on enforcing consumer rights in wireless service markets. Courts cannot be proactive, and must rule on the facts and law in front of them. They are institutionally incapable in some ways to effectuate broad change. Nonetheless, court decisions are an important piece of the puzzle.

1. Consumer Litigation

Dissatisfaction with wireless carriers has led to consumer-initiated lawsuits. In *Gatton v. T-Mobile*,⁷² consumers brought a class action alleging unfair business practices in regards to early termination fees and the sale of locked handsets.⁷³ After fighting over the arbitration clause in the service contract, the class action settled in February 2009 for money damages to those who were charged an early termination fee.⁷⁴ All of the major carriers claim to now prorate the termination fees.⁷⁵

Another class action against AT&T and Apple is ongoing in federal court in California. There, the plaintiffs allege numerous causes of action, essentially claiming that Apple and AT&T (ATTM) illegally restrained competition, locked consumers into agreements with AT&T, and punished consumers if they tried to leave.⁷⁶ The court summarized the causes of action as follows:⁷⁷

Cause of Action	Defendant
1 Monopolization of the aftermarket for iPhone applications, in violation of Section 2 of the Sherman Act	Apple
2 Attempted monopolization of the aftermarket for iPhone applications, in violation of Section 2 of the Sherman Act	Apple
3 Monopolization of the aftermarket for iPhone voice and data services, in violation of Section 2 of the Sherman Act	Apple, ATTM
4 Attempted monopolization of the aftermarket for iPhone voice and data services, in violation of	Apple, ATTM

72. *Gatton v. T-Mobile USA, Inc.*, 61 Cal. Rptr. 3d 344 (Cal. Ct. App. 2007).

73. Hoeker, *supra* note 12, at 201-02.

74. *Top Class Actions*, T-MOBILE ETF CLASS ACTION LAWSUIT SETTLEMENT, <http://www.topclassactions.com/open/427-t-mobile-etf-early-termination-fee-class-action-lawsuit-settlement> (last visited Jan. 6, 2012).

75. Hoeker, *supra* note 12, at 203.

76. *In re Apple & AT & TM Antitrust Litig.*, 596 F. Supp. 2d 1288 (N.D. Cal. 2008).

77. *Id.* at 1296-97.

Section 2 of the Sherman Act		
5	Conspiracy to monopolize the aftermarket for iPhone voice and data services, in violation of Section 2 of the Sherman Act	Apple, ATTM
6	Unfair and deceptive trade practices in violation of the consumer protection laws of 43 jurisdictions in the United States	Apple, ATTM
7	Unlawful conditioning of the iPhone warranty on consumers' use, in connection with the iPhone, of products and services "approved" by Apple, in violation of the Magnuson-Moss Warranty Act	Apple, ATTM
8	Trespass to chattels for issuance and transmission of Version 1.1.1, knowing it would alter or damage consumers' iPhone products	Apple
9	Knowing transmission of a program, which intentionally caused damage without authorization to iPhones, in violation of the Consumer Fraud and Abuse Act, 18 U.S.C. § 1030	Apple
10	Knowing transmission of a program, which accessed users iPhones without permission, resulting in damage to those iPhones, in violation of California Penal Code § 502	Apple

AT&T and Apple tried to compel arbitration and dismiss the claims, respectively. The court held the arbitration clause unconscionable and only dismissed count six because the plaintiffs failed to sufficiently allege this cause of action.⁷⁸ Subsequently, the court granted Apple's motion for summary judgment on counts eight through ten based on plaintiff's lack of injury in fact, and thus lack of standing.⁷⁹ The court also granted the motion for summary judgment on count seven because it found that Apple had replaced the plaintiff's iPhone after it became bricked.⁸⁰ Because it has taken more than two years to reach this result, it will likely be quite some time before the case is fully resolved. The counts still in dispute are the antitrust claims, which may offer the best hope for consumers.

Mark DeFeo argues that the best avenue for consumers is under a theory of illegal tying arrangement in violation of Section 1 of the Sherman Act.⁸¹ A tying arrangement is when two products or services

78. *Id.* at 1299.

79. *In re Apple & ATTM Antitrust Litig.*, No. C 07-05152 JW, 2010 WL 3521965, at *5-8 (N.D. Cal. July 8, 2010).

80. *Id.* at *5.

81. Sherman Act, 15 U.S.C. §§ 1-2 (2006) (Section 1 of the Sherman Act, through case

could be sold separately but are sold together.⁸² This is “illegal when the seller exploits his or her control over the tying product to force the buyer to purchase the tied product that the buyer either did not want or would have preferred to purchase from another seller on different terms.”⁸³ Illegal tying arrangements are anticompetitive because the products are “insulate[d] . . . from competitive pressures.”⁸⁴ As a result, consumers are harmed by having “less than optimal choice.”⁸⁵ DeFeo further argues that the Apple-AT&T use of locking fits the mold of an illegal tying arrangement. He concludes by stating that a judicial untying of the relationship “would facilitate competition in the service market by giving consumers the freedom to choose the service that best meets their demand *after* their initial purchase decision.”⁸⁶ This theory has not been tested so far, but it appears to be a viable option for consumers.

2. FCC Classification Cases

The current regulatory regime presents a number of issues. How the FCC classifies a service under different regulatory “silos” has caused inconsistent regulation and challenges services’ categorization. This silo-based model of classifications means that a service must be placed in a mutually exclusive category. Each category has different regulatory burdens.⁸⁷ Information services, for example, are largely unregulated.⁸⁸ Conversely, a telecommunication services classification results in Universal Service obligations and other common carrier regulation.⁸⁹ As technology progresses and convergent services become more pervasive, similar services might be treated differently under this silo regime.⁹⁰ In some instances, a reclassification can mean losing loosely-regulated status:

For example . . . [i]f VoIP becomes the functional equivalent to basic telephony services, but qualifies for unregulated status, then regulated voice telephony carriers surely will seek to recast their previously classified telecommunications services now as a software-defined information services. In time, telecommunications service providers

law, prohibits any agreement that unreasonably restrains trade. Section 2 prohibits monopolization.); Mark DeFeo, Note, *Unlocking the iPhone: How Antitrust Law Can Save Consumers from the Inadequacies of Copyright Law*, 49 B.C. L. REV. 1037, 1040 (2008).

82. DeFeo, *supra* note 81, at 1055.

83. *Id.* at 1055-56.

84. *Id.* at 1056.

85. *Id.* at 1064.

86. *Id.* at 1079.

87. Frieden, *supra* note 65, at 1276-77.

88. *Id.*

89. *Id.*

90. *Id.*

can migrate nearly every service they offer into the unregulated information service ‘safe harbor,’ and the FCC will have no legal basis to continue enforcing regulatory safeguards even though essential public policies and competition policies necessitate its ongoing involvement.⁹¹

If the FCC attempts to reclassify services into more regulated classifications, disadvantaged entities will likely bring litigation. Moreover, Professor Frieden points out the inconsistency with which courts have ruled on convergence technology classifications, thus creating a difficult situation for the FCC and the industry.⁹² One point that the wireless industry harps on is that more regulation would create uncertainty and undermine innovation and investment.⁹³ However, it appears that with courts’ inconsistent rulings, uncertainty exists in the current market. A new regulatory regime would address these incongruencies.

Moreover, recent cases suggest that the FCC might not be able to regulate some areas under their “ancillary authority” without a clear legislative direction.⁹⁴ This would further complicate their ability to implement change.⁹⁵

C. Other Federal Agencies

The Digital Millennium Copyright Act (DMCA),⁹⁶ passed in 1998, criminalizes circumvention of Digital Rights Management (DRM) for copyrighted works. DRM controls access to copyrighted software. The Act gives the Librarian of Congress the power to publish exemptions to the Act.⁹⁷ In other words, circumvention of DRM will not always be illegal. Exemptions are granted when the DRM interferes with a persons’ ability to make non-infringing use of the copyrighted work. Apple and AT&T attempted to protect their exclusivity agreement through the copyright on the underlying software of the phone. They tried to make it illegal to jailbreak the iPhone. Jailbreaking requires changing code in the software. Relying on the copyright protection of the software, Apple

91. For instance, the FCC is struggling with how to classify VoIP under current silos. *Id.* at 1312-13.

92. *Id.*

93. CTIA Policy Position on Net Neutrality, CTIA—THE WIRELESS ASSOCIATION, http://www.ctia.org/advocacy/policy_topics/topic.cfm/TID/43 (last visited Dec. 10, 2011).

94. *Comcast Corp. v. FCC*, 600 F.3d 642 (D.C. Cir. 2010).

95. Declan McCullugh, *Court: FCC Has No Power to Regulate Net Neutrality*, CNET NEWS (Apr. 6, 2010), http://news.cnet.com/8301-13578_3-20001825-38.html.

96. Digital Millennium Copyright Act, Pub. L. 105-304 (1998).

97. 17 U.S.C. § 1201(a)(1) (2006).

sought to extend its control to each individual copy of the software on the phone.

In July of 2010, the Librarian disagreed with Apple and stated that it was merely a business decision and therefore not the proper role of copyright protection.⁹⁸ Two issues were addressed in this decision: whether jailbreaking, for the purpose of using third-party applications, and unlocking a phone for the purpose of connecting to a different network, is permissible under the DMCA. As to the former, the Librarian stated that every purchaser of an iPhone owns that copy of the software, while Apple retains copyright protection on the intellectual property underlying the software. The librarian relied on the “fair use” argument to find that jailbreaking is consistent with “the congressional interest in interoperability.”⁹⁹ In so finding, the Librarian relied on four fair use factors.

First, jailbreaking is a modification of the software by the owner of the copy to engage in private noncommercial activity designed to add functionality to the device.¹⁰⁰ Second, it is “customary” for operating systems to allow third party interoperability.¹⁰¹ If Apple were to restrict use on its computers, then the same principle applies and copyright law cannot aid in this restrictive business model. Third, the proportion of the copyrighted work that required modification is “*de minimis*” and accounts for only 1/160,000 of the copyrighted work.¹⁰² This factor was deemed insignificant because most of the original firmware is being utilized notwithstanding the modification. Fourth, the Librarian considered the effect upon the market and the value of the work.¹⁰³ This factor was also found to favor jailbreaking because the firmware itself has no economic value, as it is not sold separately from the iPhone. The Librarian concluded by recognizing shared jurisdiction on this issue with other federal agencies, but also recognized that further regulation by those agencies would be impossible unless this finding occurs.

In 2007, the Registrar found that circumventing phone locks was not a violation of the copyrighted work. In the 2010 decision, the Librarian again found that unlocking a phone was a lawful use of the copy of the phone’s software. Furthermore, the Librarian relied on the judgment that the purpose of the lock was to “keep consumers bound to their existing networks, rather than to protect the rights of copyright

98. Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 75 Fed. Reg. 43,825, 43,828-30 (July 27, 2010) (to be codified at 37 C.F.R. pt. 201).

99. *Id.* at 43,829.

100. *Id.*

101. *Id.*

102. *Id.* at 43,829-30.

103. *Id.* at 43,830.

owners in their capacity as copyright owners.”¹⁰⁴ While this suggests that consumers can switch at will, the Librarian was careful to note that the terms of the service contract still apply, and that this decision was narrow in scope and does not represent a federal policy of consumer freedom to switch networks as that would be outside the powers of the Copyright Office. This decision is a small but important piece of the puzzle of legal rulings that favor consumer choice. Actions from other areas of government are required to attain true consumer choice in the wireless market.

D. Congress

Legislation is always an option. The FCC has interpreted its mandate from the Telecommunications Act to make the categories mutually exclusive, and the courts are too inconsistent to make the issue predictable. Congress has acted in the past to increase competition in the mobile service market. Number portability required in the Telecommunications Act of 1996 allowed consumers to take their current wireless number to any other carrier, and even take their landline number and turn it into a cell phone number. The carriers challenged this in court using some of the familiar arguments used currently. After seven years of delay, the rules went into effect on November 23, 2003. By some estimates, 12-18 million consumers switched carriers.¹⁰⁵ The new competition challenged the carriers’ restrictive practices.

Because of the way the FCC has interpreted its statutory mandate on regulatory classifications, it would be up to Congress to redefine or redo the scheme currently used. Current telecom bills seem more focused on net neutrality and, with the recent FCC order on this topic, the 112th Congress is polarized on what to do. Some want the FCC to be more stringent on regulating net neutrality; some think the middle road chosen by the FCC is the right one; and others want to overrule the FCC and reenter the deregulated era of deference to telecom companies.¹⁰⁶

Congress is ultimately the actor that could make the broadest change. One option would be for the FCC to be given explicit statutory authority to make rules regarding the Internet and wireless broadband. Another would be for Congress to enact new classifications and definitions for the telecommunications system. This, however, would require a sweeping overhaul of the current regulatory scheme and thus is

104. *Id.* at 43,831.

105. Stephen M. Kessing, *Wireless Local Number Portability: New Rules Will Have Broad Effects*, 2004 DUKE L. & TECH. REV. 6, ¶ 20 (2004).

106. *See e.g.*, John Eggerton, *Dems, Republicans Still Strongly Divided Over Net Regs*, BROADCASTING AND CABLE (Mar. 14, 2011), http://www.broadcastingcable.com/article/465242-Dems_Republicans_Still_Strongly_Divided_Over_Net_Regs.php.

unlikely to occur anytime soon.

IV. WHAT IS THE BEST OPTION?

A. *The Industry's Position*

The cell phone industry naturally disagrees with the problems laid out in this Note. The Cellular Telecommunications Industry Association (CTIA) finds nothing wrong with the current situation.¹⁰⁷ The CTIA “is an international nonprofit membership organization that has represented the wireless communications industry since 1984. Membership in the association includes wireless carriers and their suppliers, as well as providers and manufacturers of wireless data services and products.”¹⁰⁸ The CTIA published a study contending that people are satisfied with their current wireless service, that the service is the best value when compared globally, that the U.S. market is the most competitive when compared globally, and that the U.S. market fosters innovation more effectively than European markets.¹⁰⁹ However, this may be a case of the profit fox guarding the cellular hen house.

The CTIA focuses on the larger numbers rather than the gritty details of the practices of each of the carriers. It also glosses over the differences in the markets it compares, such as the fact that most individuals in Europe buy minutes without a contract rather than buying minute bundles and paying per month as with a U.S. contract. As a result, the per-minute value is higher without taking into account the costs of the contract, termination fees, and other downsides. The CTIA opposes any net neutrality legislation as well as any new regulatory scheme.¹¹⁰ It would prefer that the wireless industry remain an unregulated information technology classification.¹¹¹ While the industry is certainly not completely bad, it does need some change to foster consumer freedom and choice in order to truly drive the innovation that will bring about the next set of amazing devices.

107. See CTIA Policy Position on Net Neutrality, *supra* note 93.

108. *About Us*, CTIA—THE WIRELESS ASSOCIATION, <http://www.ctia.org/about-CTIA> (last visited Dec. 10, 2011).

109. *Study Ranks Satisfaction Rates Among Mobile Phone Users*, CTIA SMARTBRIEF (Dec. 5, 2005), <http://www.smartbrief.com/news/CTIA/storyDetails.jsp?issueid=A1E9C68E-58E2-47B6-8DC9-D72ABBCA3483©id=DDC48D5F-1A43-4E52-B7D0-F5B060BE60AD&lmcid=296640&brief=CTIA>.

110. CTIA Policy Position on Innovation and Competition, CTIA—THE WIRELESS ASSOCIATION, http://www.ctia.org/advocacy/position_papers/index.cfm/AID/12067 (last visited Dec. 10, 2011).

111. Net Neutrality Overview, CTIA—THE WIRELESS ASSOCIATION, http://www.ctia.org/advocacy/position_papers/index.cfm/AID/12051 (last visited Dec. 10, 2011).

B. A New Regulatory Framework

Communications technology has become essential to our everyday lives. For too long, wireless carriers have dictated the terms. While technology has undoubtedly advanced, it has not been able to truly reach new heights within the current market. There is persistent market failure, and regulators need to step in. This should occur in two stages. First, Congress should act to clarify the legislative mandate given to the FCC by allowing convergent technologies to be regulated with multiple categories or else create a separate scheme for these industries. Second, the FCC should start promulgating rules that foster competition, consumer choice, and innovation.

1. Attachment Rules

Consumers should be free to buy any device they choose and connect it to any network of their choice without interference from the carrier. Essentially, *Carterphone* would be extended to wireless services. Carriers would be paid for providing connectivity, just as in landline services. This would require phones to be sold without locks for GSM/SIM card phones, and would require a comparable chip for CDMA phones that can be swapped in and out freely without interaction with the carrier. In the absence of this chip, serial numbers should be provided to consumers so their devices are able to connect.

Customer loyalty and satisfaction are greater in wire line products.¹¹² By allowing any phone to connect to the network and disallowing the sale of locked phones, wireless customers would enjoy increased satisfaction with wireless service. Carriers of course may charge for the service, but they will be required to allow anyone to join or leave. This will foster competition and keep prices low. It will also help innovation because phone manufactures can sell directly to consumers and the market, not the carriers, will determine the advance of features.

Another justification that has been proffered by the carriers is that of network security. In the past, the concerns over network security have not panned out, but what if they are right? What if allowing any compatible device on any network would undermine network security? Unfortunately, the carriers are the only ones that can truly answer these questions. Rules should be put in place to protect network integrity but allow for maximum consumer choice and the spurring of innovation.

112. Schejter et al., *supra* note 21, at 101.

2. Reform the Carrier Contract Model

Two types of contracts cause problems in the current system: carrier-consumer contracts and carrier-manufacturer contracts. Of course, people should be able to enter into any type of contract that they want. However, the former type of contract is usually a contract of adhesion that forces the consumer to agree to all sorts of things like a ban on class arbitration or termination fees. The obvious consequence of changing this part of the system is that it would undermine the free (or cheap) phone for a two-year contract model. The central justification for this model is that the carrier subsidizes the price of the phone and recoups the cost of the phone over the contract period. The carrier could therefore lower the cost of service if recoupment of the cost of the phone was not a factor. Moreover, by eliminating the subsidy on the phone, the consumer trades a lower monthly service bill with more flexibility for a possibly higher up front cost of the phone. Carriers could certainly offer a few options: free phone with a contract, non-subsidized phone with a contract, and non-subsidized phone without a contract, just to name a few.

The last option would look a lot like a cable or Internet provider situation where the provider (Comcast, CenturyLink, DirecTv, etc.) charges monthly for the service and rents the box or dish to the consumer, and the consumer can cancel at any time. This provides the consumer with the freedom of choice on the consumer's time frame. If, for example, three months into the service, the consumer is unhappy with it, they can cancel and switch to another provider or leave the market altogether without a termination fee. This arrangement is commonplace and expected by consumers these days. It would be unimaginable that the cable or satellite provider would require us to buy a certain TV or computer to use with their service. Consumers should be free to switch, just as with cable or landline services, if they are unhappy with the service they are receiving.

The most notable carrier-manufacturer contract is the AT&T-Apple exclusivity agreement discussed earlier, which restricted access to the iPhone to one carrier. However, that agreement has expired, as the Verizon iPhone was released February 10, 2011.¹¹³ The iPhone was a sea change in more than just a technological sense, it was also a challenge to the carrier-driven phone market because Apple demanded control over the features. Because the iPhone was the competitor, other phones began to offer similar features. With further competition from Android and Windows Mobile as cell phone operating systems, manufacturers had

113. *iPhone 4 on Verizon Wireless Available for Pre-Order Tomorrow*, APPLE PRESS INFO (Feb. 2, 2011), <http://www.apple.com/pr/library/2011/>.

more choices on how to get phones to the market. The carriers could not act as gatekeepers to the features offered because of the increased competition.

Hopefully, the days of carriers forcing the crippling of features are in the rear-view mirror. Exclusivity agreements are not unique to Apple and AT&T, and these agreements harm consumer choice as well. Admittedly, there are technological differences between the Verizon and AT&T networks (see discussion in Part I). But consumers should be able to choose the carrier and the phone that they want. With the freedom-to-attach rules mentioned above, manufacturers may begin making phones with the capability to simultaneously use CDMA and GSM (some, like the Samsung 2ON, already do). This would allow consumers to easily switch from a CDMA carrier (like Verizon) to a GSM carrier (like AT&T), and vice versa. The bottom line is that the market should decide the features that a phone has, not the carrier.

3. Content Non-Discrimination

The mobile phone is not just a phone anymore. Smartphones will likely pass regular cell phone use percentage in the U.S. by the end of 2011.¹¹⁴ And with almost 60% of Americans using WiFi and mobile devices to connect to the Internet, there will be increased demand—and pressure on the network—for wireless access.¹¹⁵ Data plans are also coming down in price. Carriers should not be allowed to block content from consumers.

This comes into play in two ways: data regulation by carriers, and third-party developers. First, carriers should be held to net neutrality principles and not be allowed to regulate the network itself by burdening certain content providers. Second, third party developers should not be locked out of creating content because of a carrier or manufacturer's ability (and desire) to protect their own product or App. Net neutrality is essentially the concept that no content provider can be privileged over another—either through “paid prioritization” or “network management.” The CTIA insists that wireless providers need to manage their networks more vigilantly because of the inherently distinct features of the wireless service.¹¹⁶ CTIA claims carriers currently privilege voice over data, and 911 calls over it all. But the net neutrality rules proposed here would

114. Roger Entner, *Smartphones to Overtake Feature Phones in U.S. by 2011*, NIELSENWIRE (Mar. 26, 2010), <http://blog.nielsen.com/nielsenwire/consumer/smartphones-to-overtake-feature-phones-in-u-s-by-2011/>.

115. Olga Kharif, *Smartphone Use on the Web Goes “Mainstream”*, BLOOMBERG BUSINESSWEEK (July 7, 2010), http://www.businessweek.com/technology/content/jul2010/tc2010077_481216.htm.

116. CTIA Policy Position on Net Neutrality, *supra* note 93.

only apply to Internet and App non-discrimination. The FCC promulgated rules for net neutrality in December of 2010.¹¹⁷ While most of the details of the order are outside the scope of this Note, the order did include extension of some of the principles to wireless carriers. Namely, “mobile providers . . . can’t block access to ‘lawful’ Websites or ‘competing’ services.”¹¹⁸ The rules also require more extensive disclosure of network practices to consumers. One consequence of this is that VoIP services like Skype cannot be blocked from smartphones. This is encouraging news from the FCC, but it is still vulnerable to attack in the courts and from Congress, which have both favored a less stringent regulatory framework.

One possible drawback is that carriers may increasingly rely on menu pricing for data usage, which could raise the cost to the consumer. By making higher data usage more expensive, the carrier would not need to manage the network because the consumer would do it for them based on the economic decision of whether to download or view a movie or website.

C. How Consumers Benefit

Consumers benefit from, in a word, choice. Choice of carrier. Choice of phone. Moreover, consumers would further benefit from increased flexibility once they purchase the phone. This flexibility would help foster competition among wireless carriers because those carriers would know that a consumer could switch at any time. Of course, there will be consumers that do not switch even if they are unhappy with the service because transaction costs cannot be totally eliminated. However, the flexibility will increase pressure on the carriers to compete on price, quality, and customer service. In the current lock-in model, loyalty is enforced, not earned. It is likely that if these reforms go into effect, carriers might try to enter into exclusivity contracts because if they limit the choice of phone then they have reversed the reforms informally.

Exclusivity contracts are normally analyzed under the antitrust laws. However, vertical restraints such as these are rarely struck down and are analyzed under the so-called rule of reason. If carriers attempt to restrain choice again through exclusive contracts, then further rules banning this behavior should be considered. However, there is no guarantee that manufacturers will play along and actually enter into exclusive contracts

117. Verizon is challenging these net neutrality rules. Joelle Tessler, *Verizon Challenges FCC’s Net Neutrality Rules*, HUFFINGTONPOST.COM (Jan. 20, 2011), http://www.huffingtonpost.com/2011/01/20/verizon-challenges-fcc-net-neutrality-rules_n_811869.html.

118. Declan McCullough, *FCC Net Neutrality Rules Reach Mobile Apps*, CNET NEWS (Dec. 23, 2010), http://news.cnet.com/8301-13578_3-20026581-38.html.

because they too would be able to choose more freely with the new rules. Overall, consumers will benefit from increased choice. Additionally, in the long run, consumers would benefit from innovations that are driven by consumers rather than carriers. Since consumers and not carriers would drive the demand side, the innovative efforts would shift focus.

D. *How Carriers Benefit*

Carriers, too, would benefit from increased innovation and competition. First, it presently costs about \$300 to recruit a new customer, whereas it costs only about \$20 to retain a customer.¹¹⁹ This is largely because to add a new customer, the carrier must convince them to switch from another carrier, which involves costs to the consumer and, as a result, the carrier must offer more incentives.¹²⁰ These costs would certainly be less expensive under the proposed reforms, but there remains a cost to the carriers to try to convince a consumer to switch. Therefore, it is in the carriers' interest to make their services better so that consumers do not switch.

Moreover, "wooing customers" with free phones, free minutes, or other incentives does not work and only wastes scarce resources.¹²¹ Carriers should instead focus on customer satisfaction with the service. Satisfaction is almost completely determinative of loyalty and, consequently, retention by the carrier. By lowering the switching costs of consumers, carriers can redirect resources toward improving and expanding service.¹²² A satisfied customer, who has choices in carrier and phone, and who enjoys the experience with the carrier, will have no need to switch. Carriers benefit by keeping this customer. And increased choice and competition create a market milieu in which this is possible.

CONCLUSION

The cellular phone has become an integral part of modern U.S. society. Workers can telecommute via their Blackberry. The Red Cross can raise money for disaster relief via text message. The boundless information of the Internet can be accessed anywhere. The technology available today is the most advanced ever. Nevertheless, all of this can get better. The wireless telecom companies have operated in a regulatory scheme that has allowed for anticompetitive and anti-consumer behavior.

The watchdogs of the industry have stood idle for too long. The

119. DongBack Seo et al., *Two-Level Model of Customer Retention in the U.S. Mobile Telecommunications Service Market*, 32 TELECOMM. POL'Y 182 (2008).

120. *Id.* at 183.

121. Eshighi, *supra* note 3, at 101.

122. *Id.*

FCC has been either pro-carrier, ambivalent, or pro-consumer. The courts have inconsistently applied the statutory definitions, and have likewise overruled or confirmed the FCC's decisions in a seemingly random fashion. Congress passed the Telecommunications Act of 1996 and considered its job done. Now, most of developments in telecommunications law are focused on net neutrality or converting to digital television rather than recognizing the inconsistencies in the wireless world that need fixing. Other agencies like the Copyright Office have been pro-consumer but represent only a small piece of what needs to be done. The regulatory scheme should be overhauled. The CTIA is right that wireless communications is an inherently distinctive industry. Therefore, it should be given its own category under the FCC definitions and not be crammed into an ill-fitted silo of regulation.

The resulting rules should take into account the unique aspects of the wireless world. These rules should include freedom to attach any device, the elimination of forced consumer-carrier contracts that are clearly in favor of the carrier, stringent disclosure requirements, and the requirement that carriers do not discriminate against content delivered on their network. In short, consumers should be allowed a choice: a choice of phone; a choice of network; a choice to switch if unhappy with current service. A free market functions best on perfect information and competition. Accordingly, the approach that should be followed is one that fosters innovation, protects consumers, and results in high quality service through a high quality product for a price decided on by the market.

SWEET FRUIT OR POISONED APPLE? THE IPAD'S EFFECT ON NEWSPAPERS

JANNA FISCHER*

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INTRODUCTION

The release of Apple, Inc.'s iPad tablet computer in early 2010 sparked a wave of excitement among newspaper-industry watchers, who were hopeful that the iPad would revitalize the struggling business. News Corp.'s Rupert Murdoch famously called the device a "game-changer" that would get young people reading newspapers.¹ Although the iPad gives readers a larger reading surface than a smartphone while still allowing them to carry their newspaper anywhere, the iPad might not be the "game-changer" that some in the industry hope it can be. The iPad, like Apple's other devices, is a closed system that discourages innovation

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1. Andrew Clark, *Rupert Murdoch Says Apple's iPad is a 'Game-Changer' for News Media*, THE GUARDIAN (London), Aug. 5, 2010, at 27, available at <http://www.guardian.co.uk/media/2010/aug/05/ipad-rupert-murdoch-apple-newsCorp>.

by others.² Although Apple allows outsiders to develop applications for its platform, Apple retains the power to deny developers access to the iTunes store.³ So in order to have access to the iPad, newspapers must accept Apple's terms for access to the iTunes store. If the iPad is going to drive paid, electronic newspaper content, then newspapers will have to make Apple's distribution channel work for them instead of bowing to Apple's demands.

Because the iPad is currently the leading tablet device on the market,⁴ this Note focuses on Apple and its content distribution channels. However, other companies, such as Samsung, either have released or will shortly release their own tablet computers.⁵ The 2011 Consumer Electronics Show featured more than eighty portable, touch-screen computers.⁶

Part I of this Note looks at the reasons the newspaper industry is struggling in the first place and how the Internet has eroded its subscription and advertising models. Part II reviews Apple's agreements with other content-producing industries and examines how such agreements have affected those industries. Part III explores some of the challenges that newspapers might face in trying to make content on the iPad work for them while managing a relationship with Apple. It also raises the question of whether, in order to promote independent editorial voices in the United States, the government should protect the newspaper industry in some of its business ventures.

I. THE PROBLEM

Since the late 1990s, newspapers have undergone a steady decline in both circulation and advertising. Industry analysts cite the rise in Internet use as a major factor in those declines.⁷ The overall number of

2. TIM WU, *THE MASTER SWITCH: THE RISE AND FALL OF INFORMATION EMPIRES* 290-93 (2010).

3. *Id.* at 292.

4. Apple is expected to account for three-quarters of the tablet application market in 2011. Zach Epstein, *Major Mobile App Store Revenue Will Grow 77.7% in 2011*, BOY GENIUS REPORT (May 5, 2011), <http://www.bgr.com/2011/05/05/major-mobile-app-store-revenue-will-grow-77-7-in-2011/>.

5. Brian Barrett & Matt Buchanan, *The Blackberry Playbook Tablet: 10 Things You Need to Know*, GIZMODO (Sept. 27, 2010), <http://gizmodo.com/5649238/blackberry-playbook-tablet-an-ipad-killer-for-the-suits>; Melissa J. Perenson, *First Impressions: Samsung's Galaxy Tab*, MSNBC (Sept. 17, 2010), http://www.msnbc.msn.com/id/39234134/ns/technology_and_science-tech_and_gadgets/39672835.

6. David Sarno & Alex Pham, *Tablets Are Talk of the Town at CES*, LOS ANGELES TIMES (Jan. 6, 2011), <http://www.latimes.com/business/la-fi-ces-tablets-20110106,0,7680250.story>.

7. *Who Killed the Newspaper?*, THE ECONOMIST, Aug. 24, 2006, at 9, available at http://www.economist.com/node/7830218?story_id=7830218.

newspaper readers continues to fall, and increasing numbers of the remaining readers get their news online (and for free) as opposed to in print.⁸ Younger users are the most likely to get their news from some kind of mobile device rather than a newspaper.⁹ In light of these trends, the iPad offers some promise as a way for newspapers to make money off of the delivery of their own digital content—which is something that search engines such as Google and Yahoo! have been more successful at than the newspapers that produced the content in the first place.

A. *What Happened to the Daily Newspaper?*

American newspapers have a broken business model. A litany of bleak statistics depicts an industry facing some serious changes: Newspaper circulation has declined steadily over the last few years, with a particularly steep drop in 2007 in concert with the recession.¹⁰ Hundreds of daily newspapers have closed their doors in the last four years, including venerable publications such as the *Honolulu Advertiser* in Hawaii and the *Rocky Mountain News* in Denver.¹¹ Since 2007, 13,500 journalists have lost their jobs, bringing the total number of full-time newsroom employees to a level not seen since the mid-1970s.¹²

8. In 2008, 39 percent of respondents to a Pew Research Center survey read a newspaper, in any form, down from 43 percent in 2006. Fourteen percent of those 2008 respondents read the online version, up from 9 percent of the 2006 respondents. *Newspapers Face a Challenging Calculus*, PEW RESEARCH CTR. PUBL'NS, (Feb. 26, 2009), <http://pewresearch.org/pubs/1133/decline-print-newspapers-increased-online-news>.

9. Forty-seven percent of adults now report getting their news from a mobile device. Seventy percent of those surveyed between the ages of eighteen to twenty-nine reported getting their news from some kind of mobile device. The study did not differentiate between cell phones and tablet computers. Tom Rosenstiel & Amy Mitchell, *Survey: Mobile News & Paying Online, The State of the News Media 2011*, PEW RESEARCH CTR., <http://stateofthemediamedia.org/2011/mobile-survey/> (last visited Dec. 14, 2011) [hereinafter 2011 Pew Study].

10. Figures from the Audit Bureau of Circulations (“ABC”) show a 5 percent drop over the six-month period ending September 30, 2010. Jeremy W. Peters, *Newspaper Sales Decline 5%, But 2 Big Dailies Show Gains*, N.Y. TIMES, Oct. 26, 2010, at B4. This was an improvement from the previous six months ending March 31, 2010, when newspaper circulation dropped 8.7 percent. Joseph Plambeck, *Newspaper Circulation Falls Nearly 9%*, N.Y. TIMES, Apr. 26, 2010, at B2, available at <http://www.nytimes.com/2010/04/27/business/media/27audit.html>; see also, Michael Liedtke, *New Rules Don't Stop Newspaper Circulation Fall*, THE ASSOCIATED PRESS, May 4, 2011 (stating that the March 2011 figures were calculated using new ABC guidelines, so the ABC did not make direct comparisons to the previous six-month period. Most large newspapers reported a drop in circulation, although the Wall Street Journal and USA Today made digital gains).

11. See NEWSPAPER DEATH WATCH, www.newspaperdeathwatch.com (last visited Dec. 14, 2011); see also PAPER CUTS, <http://newspaperlayoffs.com/maps/closed> (last visited Dec. 14, 2011) (providing a list and map of newspapers that have recently closed or stopped publishing).

12. *Decline in Newsroom Jobs Slows*, THE AM. SOC'Y OF NEWS EDITORS (Apr. 11, 2010), http://asne.org/article_view/smid/370/articleid/763.aspx.

Moreover, advertising revenue fell 28 percent between last quarter 2008 and last quarter 2009.¹³ U.S. newspapers rely on advertising at a level that newspapers in other countries do not.¹⁴

Many blame the Internet for the demise of daily print publications. Some media analysts say that the Internet is transforming the news business and that the aforementioned job losses and disappearing newspapers are just a natural part of that process.¹⁵ The newspaper industry fell behind in the rise of the Internet because publications were slow to put content online and even slower to think about charging for that content. Early newspaper websites were mere replicas of their print editions, with very little in the way of additional content, videos, animations or interactivity.¹⁶

A Nielsen survey taken in late 2009 found that about one-third of consumers surveyed worldwide were willing to pay for online newspapers, a figure that fell to 27 percent within North America.¹⁷ The Pew Research Center asked adults if they would be willing to pay for local news content online if that was the only way to get their local newspaper, and 23 percent—less than a quarter—said they would do so.¹⁸ In addition, print advertising, from which newspapers have historically derived a substantial portion of their revenue, plummeted, and online ads brought in only a fraction of the revenue.¹⁹ Online ads' lower revenue figures are partially due to the fact that those ads are cheaper than print ads, and prices for online ads have fallen dramatically

13. See Advertising Expenditures, NEWSPAPER ASSOC. OF AM., <http://www.naa.org/Trends-and-Numbers/Advertising-Expenditures/Annual-All-Categories.aspx> (last visited Dec. 14, 2011) (showing the decline does seem to be slowing: advertising in 2010 was down 8.2 percent).

14. Eric Pfanner, *Preserving Journalism, if Not Papers*, N.Y. TIMES (June 13, 2010), <http://www.nytimes.com/2010/06/14/business/media/14cache.html> (“In 2008, advertising contributed 87 percent of newspapers’ revenues in the United States, compared with 53 percent in Germany, 50 percent in Britain and 35 percent in Japan.”).

15. Bartholomew Sullivan, *Journalism’s Digital Flight — The Internet is Transforming the News Business With Stunning Speed, But No One Knows Just Yet What Might Come*, MEMPHIS COMMERCIAL APPEAL, Aug. 22, 2010, at V1, available at <http://www.commercialappeal.com/news/2010/aug/22/journalisms-digital-flight-generation-issues-for/> (“The Internet is transforming the news business into something different, but no one knows quite what, and only visionaries and hard-skulled business people grasp what could be. Like every revolution, this one is causing casualties, the guillotins this time seen in lost jobs, even disappearing newspapers.”).

16. “The Net changed America, but newspapers remained mired in two-dimensional thinking. They created sites that were largely a static replica of their print editions. There was little updating, little sense of the dynamism of the Web . . .” Howard Kurtz, *Lack of Vision to Blame for Newspaper Woes*, THE WASHINGTON POST, May 11, 2009, at C1.

17. THE NIELSEN CO., CHANGING MODELS: A GLOBAL PERSPECTIVE ON PAYING FOR CONTENT ONLINE 6 (2010), <http://blog.nielsen.com/nielsenwire/reports/paid-online-content.pdf> [hereinafter Nielsen Survey].

18. 2011 Pew Study, *supra* note 8.

19. Kurtz, *supra* note 16.

since their introduction.²⁰

By the time newspaper editors realized that they were in trouble, the public had become accustomed to getting its news from online news aggregators powered by search engines like Yahoo! and Google. “To date the biggest moneymakers in the online news business—Google, Yahoo!, MSN, AOL—mainly sell advertising next to news headlines and other content they don’t produce, maximizing linking and aggregation practices of the Internet.”²¹ Websites like Google do not pay to produce the content, so they do not incur the same upfront costs and can derive some profit from their online ad revenue, no matter how minimal the revenue from each ad might be. In addition, they can target ads to entered search terms, whereas newspaper websites merely offer electronic versions of their advertisers’ print ads that are the same for every viewer.²² Newspaper publishers such as Arthur Sulzberger of the New York Times now acknowledge that in order to keep their publications alive, they will have to find a way to start charging subscribers for online content.²³

Confronted with this bleak forecast, publishers and media analysts hailed the release of the iPad as a way to allow readers to take their electronic newspapers on trains, outside, and even to the bathroom. “It’s the best chance especially newspaper and magazine content publishers have,” enthused media analyst Kaan Yigit.²⁴ News Corp.’s Rupert Murdoch calls the device a game-changer that will revolutionize the way news content is presented. “In five, seven years there’s going to be a billion of these. Everyone will have one, but for different reasons. I think it’ll bring newspapers to people in a big way.”²⁵

B. *What’s an iPad, and Why Do Newspapers Care?*

The iPad is a tablet computer—a small, lightweight device that does many of the same things a traditional laptop computer can do, allowing

20. *The Future of Newspapers: The Impact on the Economy and Democracy: Hearing Before the S. Joint Econ. Comm.* 111th Cong. (2009) (testimony of Tom Rosenstiel, Pew Research Center’s Project for Excellence in Journalism).

21. Sullivan, *supra* note 15.

22. *Id.*

23. “We believe that serious media organisations [sic] must start to collect additional revenue from their readers,” Arthur Sulzberger as quoted by Emma Heald, *Arthur Sulzberger on Charging Online: To Succeed, We Need to Take Risks*, EDITORSWEBLOG (Sept. 8, 2010, 7:15 PM), http://www.editorsweblog.org/newspaper/2010/09/arthur_sulzberger_on_charging_online_to.php.

24. John Barber, *Why Old Media Loves Apple’s Newest Thing*, TORONTO GLOBE & MAIL, Jan. 28, 2010, at B1.

25. Telephone Interview with Rupert Murdoch, CEO of News Corp. (Sept. 15, 2010) (notes on file with author).

users to access the Internet and check their e-mail on-the-go. While smartphones also perform many of the same functions, the iPad doubles as an e-reader, like Amazon's Kindle, displaying books in a readable format. Its 9.7-inch screen provides a larger viewing area than the 3.5-inch screen of an iPhone, which allows for easier reading of printed content, such as a newspaper.²⁶ Apple describes its device as "magical" and "revolutionary,"²⁷ and initial reviews were nearly as laudatory.²⁸ Apple sold 3.3 million of the devices in the first quarter it was available and 7.46 million through October 2010, a number that does not include holiday sales.²⁹ Apple's March 2011 release of the iPad 2 sold out in a day.³⁰ Much of the content for the device is available through applications, known colloquially as "apps," that are sold through Apple's iTunes store.

Why is this small tablet computer a big deal? It could offer newspapers the chance for a do-over—a way to get their content in front of people in a digital format just as this new device is being adopted. Early studies show that owners of the iPad and other tablet computers report spending 75 percent more time on newspaper articles than do the general public or those who own e-readers.³¹

The tablet market also attracts more affluent consumers who are more willing to pay for content through this delivery method. Consumers are accustomed to the idea that they need to pay to use an application on their mobile devices,³² whereas they balk at paying for their news online,

26. See APPLE, INC., <http://www.apple.com>, for the screen sizes of both the iPad and the iPhone (last visited Dec. 14, 2011).

27. *Id.* at <http://www.apple.com/ipad/> (last visited Dec. 14, 2011).

28. "After using a loaner iPad nonstop for several weeks, I am inclined to agree that the device can, for many people, become an addictive and indispensable device. Using an iPad almost entirely with finger tapping and swiping is remarkable." Julio Ojeda-Zapata, *It's a Start: Apple's iPad Short on Revolutionary but Long on Magical*, ST. PAUL PIONEER PRESS, Apr. 25, 2010, at E1.

29. Jessica Mintz, *Market Debut of iPad Pushing Apple Higher*, ASSOCIATED PRESS (as printed in the Charleston Gazette & Daily Mail), Oct. 13, 2010, at 2C; Joshua Brustein, *Rivals to the iPad Say This Is the Year*, N.Y. TIMES, Jan. 3, 2011, at B1, available at http://www.nytimes.com/2011/01/03/technology/personaltech/03tablet.html?_r=1&ref=ipad.

30. Seventy percent of the purchases were to first-time iPad users. Philip Elmer-DeWitt, *Piper Jaffray: iPad 2 Totally Sold Out, 70% to New Buyers*, FORTUNE (Mar. 13, 2011), <http://tech.fortune.cnn.com/2011/03/13/piper-jaffray-ipad-2-totally-sold-out-70-to-new-buyers/>.

31. Tablet users report dedicating 75 percent more time to reading newspaper articles than non-owners, while owners of e-readers spend 50 percent more time reading newspaper stories. Alex Pham, *Digital Device Owners Read More*, LOS ANGELES TIMES, Oct. 6, 2010, at Business 9; see also, Jeff Bercovici, *Tablets and E-Readers Give Hope to Publishers, but Not Broadcasters*, DAILY FINANCE BLOG (Oct. 4, 2010, 8:45 AM), <http://www.dailyfinance.com/story/media/tablets-and-e-readers-give-hope-to-publishers-but-not-broadcast/19658821/>.

32. See *Wikipedia Founder Bullish on the Future of News Industry*, SOUTH FLORIDA SUN-SENTINEL (Fort Lauderdale), Sept. 6, 2010, at 6D, available at <http://www.odt.co.nz/news/technology/125232/wikipedia-founder-bullish-future-news->

whether it comes from a dedicated news service or an aggregator.³³ Forrester Research found that while consumers resist paying for online news, they show some willingness to pay for news on mobile devices.³⁴ U.S. mobile readers were willing to pay a third of the print-subscription price to access news on their iPads.³⁵ The percentage of tablet-owning readers is growing fast, nearly doubling in the four months between September 2010 and January 2011.³⁶ Thus, the tablet market could present newspapers with a renewed opportunity to charge for digital content delivery, which is an opportunity that they missed with the advent of the Internet.

Advertising opportunities on the iPad are also tantalizing to publishers because data suggests that advertisers are more willing to pay for advertising on the iPad than for more general Internet advertising.³⁷ One such advertiser found success in this medium: J.P. Morgan Chase & Co. sponsored the early version of the New York Times iPad app. Chase used its sixty-day sponsorship to showcase its Sapphire credit card, targeted at the top 15 percent of earners.³⁸ More readers clicked on the ad than on the average online ad.³⁹ Since tablet readers spend more time reading newspapers than the average reader, it follows that they are more likely to see associated ads and to spend more time on them.⁴⁰ Ads can also be “embedded” in iPad subscription apps in a way they cannot in Internet advertising, a model the New York Times is exploring.⁴¹ The sponsored ad is a presence throughout the application, and messages referring to the sponsor appear as the user navigates through the app version of the publication. This differs from an online ad in that most online ads appear only once during the reader’s online session. Publications can also command higher prices for ads within an app than for web ads: USA Today charges five times as much for an ad on its iPad

industry.

33. See Nielsen Survey, *supra* note 17.

34. *Conference Looked to Make E-Reading, Tablets Work for News Media*, EDITOR & PUBLISHER (Oct. 13, 2010), <http://www.editorandpublisher.com/Article/Conference-Looked-to-Make-E-Reading-Tablets-Work-for-News-Media>.

35. *Id.*

36. Kenny Olmstead, Amy Mitchell, & Tom Rosenstiel, *Online: Key Questions Facing Digital News*, PEW RESEARCH CENTER’S PROJECT FOR EXCELLENCE IN JOURNALISM—THE STATE OF THE NEWS MEDIA 2011, <http://stateofthemedias.org/2011/online-essay/>.

37. Andrew Vanacore, *Publishers See Signs the iPad Can Restore Ad Money*, ASSOCIATED PRESS (June 8, 2010), http://www.usatoday.com/tech/products/2010-06-03-ipad-advertising_N.htm.

38. *Id.*

39. *Id.*

40. Pham, *supra* note 31.

41. Gideon Spanier, *Newspapers Must Think Like Brands*, EVENING STANDARD (London), Oct. 4, 2010, at 44, *available at* <http://www.thisislondon.co.uk/markets/article-23884472-newspapers-must-think-like-brands.do>.

app than for a web ad.⁴² Newspapers also hope to offer a more affluent iPad subscriber base to advertisers. Purchasers of the device are typically younger men who “tend to be more susceptible to advertising than most (which may be how they ended up with an iPad to begin with). . . . Advertisers targeting the platform really couldn’t ask for a better audience than relatively wealthy, young men who are receptive to your message.”⁴³ More expensive iPad advertising might serve to buffer some of the revenue gap left from print advertisers’ disappearance.

Additionally, newspapers now have the chance to design content specifically for the iPad. Early newspaper websites were “shovel sites” that merely reproduced the content of the print versions of their product without incorporating videos or interactivity.⁴⁴ Editors now realize that digital formats offer possibilities that print does not, and the first generation of iPad apps reflects that realization. For example, the Wall Street Journal’s current app allows subscribers to save stories they find interesting and return to them later.⁴⁵ Other publications have also found new and creative ways to leverage the digital format. For instance, crosswords in USA Today’s free app are interactive, and users can save their progress and return to them later.⁴⁶ The Financial Times allows subscribers to alter the order of the publication’s sections so that those articles that they are most interested in appear first.⁴⁷ Designers have incorporated start screens and other novel features that make it easier for the consumer to find an article of interest than on the current, cluttered websites associated with many newspapers.

Some in the industry wax enthusiastic about the possibilities of creating iPad-specific newspapers. The device’s screen—larger than a smartphone—and the possibilities for interactivity offer newspapers the chance to include video, interactive games, and links between related content in a portable format. News Corp. on February 2, 2011, unveiled the first iPad-only newspaper.⁴⁸ Called “The Daily,” it features lots of

42. But print ads still cost twice as much as iPad ads. Josh Ong, *USA Today Looks to iPad As “Real Positive” for Struggling Newspaper Industry*, APPLE INSIDER (Jan. 31, 2011), http://www.appleinsider.com/articles/11/01/31/usa_today_looks_to_ipad_as_real_positive_for_struggling_newspaper_industry.html.

43. Darrell Etherington, *Nielsen: iPad Owners Younger, More Receptive of Ads*, GIGAOM (Sept. 29, 2010), <http://gigaom.com/apple/nielsen-ipad-owners-younger-more-receptive-of-ads-2/>; *The Connected Devices Age, iPads, Kindles, Smartphones and the Connected Consumer*, NIELSEN WIRE (Sept. 28, 2010), <http://blog.nielsen.com/nielsenwire/consumer/the-connected-devices-age-ipads-kindles-smartphones-and-the-connected-consumer/>.

44. See Kurtz, *supra* note 16, at C1.

45. Amy-Mae Elliott, *Hands on With 4 iPad Apps*, MASHABLE (Oct. 13, 2010), <http://mashable.com/2010/10/13/ipad-newspaper-apps/>.

46. *Id.*

47. *Id.*

48. Patrick May, “*New Times Demand New Journalism*”: News Corp. Unveils its

multimedia and interactivity, including some 3-D features, and has a dedicated staff of 150 people.⁴⁹ News Corp. lined up an array of sponsors for The Daily that included Macy's, Verizon Wireless, Land Rover, Pepsi Max, and Virgin America, some of which offered incentives, such as Virgin frequent-flier miles to Daily subscribers.⁵⁰ "You can present the news with videos, everything there," Murdoch says.⁵¹ "The tablet as a reading and information device more closely approximates the opportunity newspapers had to package [content]," says Randy Bennett, senior vice president of business development for the Newspaper Association of America ("NAA").⁵²

However, it's not likely that any technical wonders in the current iPad versions will trump newspaper websites. "[T]he real bonus with a mobile newspaper app is the instant access, rather than any stunning design or interface improvements over a standard online publication."⁵³ The key differences between the iPad apps and newspaper websites are the increased willingness of advertisers to spend money on ads that are designed for the iPad and the willingness of subscribers to pay for an app, whereas they are unwilling to pay for online content.

C. *Why the iPad Might Not Be a Savior*

Not everyone sees the iPad as a benefit to the newspaper industry. Mark Contreras, the chairman of the NAA, points out that revenue from the iPad and future tablets will not make up for newspapers' lost classified advertising revenue.⁵⁴ Moreover, Murdoch has attempted to create a national newspaper venture before and failed, and The Daily may or may not prove to be successful.⁵⁵ Initial reviews of The Daily were mixed, although analysts agree the publication has potential.⁵⁶ That

Digital Publication, Aims to "Re-Imagine Our Craft," SAN JOSE MERCURY NEWS (Calif.), Feb. 3, 2011, at 1D.

49. *Id.*

50. May, *supra* note 48.

51. Murdoch, *supra* note 25.

52. Telephone Interview with Randy Bennett, Senior Vice President of Business Development for the Newspaper Association of America (NAA), and John Sturm, President and CEO of the NAA (Sept. 20, 2010) (notes on file with the author).

53. Elliott, *supra* note 45.

54. Dick Smillie, *iPad, Kindle Won't be Newspapers' Saviors*, FORBES.COM BLOG, (Feb. 3, 2010, 4:20 PM), <http://www.forbes.com/2010/02/03/newspapers-kindle-ipad-business-media-contreras.html>.

55. Paul Carr, *Murdoch's New iPad: One Last Tragic Roll Of The Digital Dice*, TECHCRUNCH (Aug. 15, 2010), <http://techcrunch.com/2010/08/15/crazy-like-a-fox/>; Ryan Tate, *Why the iPad Newspaper is Doomed*, GAWKER (Nov. 24, 2010), <http://gawker.com/5697754/why-the-ipad-newspaper-is-doomed>.

56. "[The Daily] makes full use of the iPad's unique capabilities—swiping, coverflow navigation, hot spots to pop out additional text and fade-ins and morphing of images." Ced Kurtz, *News Product Debuts on Only iPad, Plows Ground*, PITTSBURGH POST-GAZETTE, Feb.

said, since consumers are so used to getting their news from aggregators like Google News, it may be difficult to lure them to an electronic version of the newspaper.⁵⁷

Even assuming for the sake of this Note that the iPad subscription model will be successful, the newspaper industry still has a problem: Apple's subscription service allows customers to opt out of sharing information, so publishers will not have complete access to customer names or other personal information.⁵⁸ Although subscription revenue never was a big part of newspapers' income, newspaper publishers depend on having their own database of subscriber information.⁵⁹ This is how they attract advertisers and tell them whom their ads will be reaching, and the advertising does form the lion's share of their revenue.⁶⁰ Traditionally, newspapers offered cheap subscriptions on the theory that the low prices would drive up circulation and the increase in advertising revenue would offset the subscription revenue.⁶¹ When the *Dallas Morning News* decided to start charging readers for access to their full online content (including its iPad app), the editors' decision was based on the additional advertising the newspaper could attract if it could show advertisers that it had loyal readers of its digital content.⁶² Publishers also mine subscriber rolls to help them target new offers to readers, as anyone who has canceled a subscription and been the target of numerous phone calls and mailings asking to re-subscribe can attest.

"Apple's been reluctant to provide [subscriber] data to any of the publishers. Newspapers want to be able to market to those people," says

6, 2011, at C2, *available at* Westlaw, 2011 WLNR 2360382. "The Daily is a decent app with some potential. But it could learn a few things from other apps ranging from Angry Birds to The Weather Channel." Damon Kiesow, *5 Things the Daily Should Learn from Flipboard, Angry Birds, The Huffington Post and Other iPad Apps*, POYNTER.ORG (Feb. 10, 2011, updated Feb. 11, 2011, 12:51 PM), <http://www.poynter.org/latest-news/media-lab/mobile-media/118662/5-things-the-daily-should-learn-from-flipboard-angry-birds-huffington-post-and-other-ipad-apps/>.

57. Because a discussion of the pros and cons of tablet-only versions of newspapers is beyond the scope of this Note, the rest of this discussion assumes *arguendo* that there is a market for newspapers on tablet devices and that readers will want to purchase iPad subscriptions.

58. "If people don't share their information with publishers, Apple will still hold onto it, though it will not pass it on to third parties." *Apple Announces Subscriber Service*, DETROIT FREE PRESS, Feb. 16, 2011, at C2, *available at* 2011 WLNR 3060938.

59. "Even before the Internet, subscription revenue didn't amount to much for most news organizations." BILL GRUESKIN, AVA SEAVE, & LUCAS GRAVES, *THE STORY SO FAR*, TOW CENTER FOR DIGITAL JOURNALISM AT COLUMBIA JOURNALISM SCHOOL 79 (May 11, 2011).

60. *Id.* (Newspapers gained by having lots of cheap subscribers because increased subscriber numbers helped them attract more advertising.).

61. *Id.* at 79.

62. *Id.* at 70.

Randy Bennett of the NAA.⁶³ Although newspapers can gather information from their websites about how many hits stories get and how long subscribers linger there, they want access to details about iPad app purchasers in order to distinguish new subscribers from the regular subscriber pool and to determine which subscribers transferred from the print edition. Furthermore, signing on with Apple will require newspapers to give the company a cut of their revenue. In exchange for allowing publishers to sell subscriptions by the year, month, week or another unit of their choosing, Apple takes its standard thirty percent cut of revenue.⁶⁴

A look at how other content industries have fared in working with Apple shows that how the content industry fares depends on the health of the industry and how much leverage they have when they negotiate. Part II of this Note examines how the music industry, the movie industry, and book publishers have adapted to Apple's platforms.

II. A LOOK AT OTHER CONTENT INDUSTRIES

Apple has secured access to media content in ways that its rivals have had trouble matching.⁶⁵ Apple's iTunes store is the largest vendor of digitally downloaded music in the United States, and its dealings with the music industry have shown the effects of this dominance. Record labels are now dependent on Apple to sell downloads. Music publishers have not been able to get terms they want from Apple, such as protection from their songs being copied. The film, television, and book industries have fared better. Apple has competition in these non-music industries for digital downloads, including Netflix and other online movie and television sources, and Amazon's Kindle reader and other e-readers for books. Newspapers can take a lesson from the music industry in what Apple does when it has little-to-no competition. Additionally, newspapers can take a lesson from Hollywood, the television producers and the book publishers in seeing how Apple behaves when there are other players in the market.

A. *Music*

The music industry has become dependent on Apple and its iTunes music distribution store. In the United States, iTunes is the largest music retailer and largest digital music store, with a digital music market share of about 70 percent. The number two digital music seller, Amazon, trails

63. Bennett & Sturm, *supra* note 52.

64. *Apple Unveils App Store Subscription Service*, NATIONAL PUBLIC RADIO MORNING NEWS, Feb. 16, 2011, available at 2011 WLNR 3082095.

65. Wu, *supra* note 2, at 292.

iTunes with less than a 10 percent market share.⁶⁶ Global music sales “have shrunk from \$26.5 billion in 2000 to \$17 billion” in 2009.⁶⁷ Although Apple has held the upper hand during the setup of iTunes and subsequent dealings with the music industry, the U.S. Department of Justice has begun to inquire into Apple’s practices and possible antitrust violations.⁶⁸ Further, Amazon’s market share, while far and away trailing Apple’s, is rising, while iTunes’s market share essentially remains flat.⁶⁹

The music industry in 2001 was threatened by the rise and fall of Napster, the free downloading service that allowed users to share songs and download other users’ songs to their computers.⁷⁰ While consumers loved the freedom of not having to travel to a brick-and-mortar store to buy music and little-known artists benefited from the exposure, the industry got no revenue from the downloads.⁷¹ As a result, the Recording Industry Association of America (“RIAA”) sued, alleging copyright violations.⁷² Napster shut down in July 2001 to comply with an injunction issued by the Ninth Circuit Court of Appeals,⁷³ and the company filed for bankruptcy in 2002.⁷⁴ The rise and fall of Napster was only the beginning of users’ desire to download music instead of drive to a store to purchase an artist’s entire album.

The RIAA was uneasy after seeing the popularity of downloaded music, and in 2001 it began talks with Apple to sell music downloads. Apple unveiled the music store portion of iTunes in 2003, boasting that the new service was an unprecedented way to legally download music.⁷⁵ Initial music sales on iTunes were brisk, with the store selling 6.5 million songs in its first three months.⁷⁶ Within three years, iTunes accounted for

66. Yinka Adegoke, *U.S. Probes Apple Digital Music Dominance*, REUTERS NEWS (May 26, 2010), <http://www.reuters.com/article/2010/05/26/us-apple-probe-idUSTRE64P6Z920100526>.

67. *Id.*

68. Brad Stone, *Apple Is Said to Face Inquiry About Online Music*, N.Y. TIMES, May 25, 2010, at B1, available at <http://www.nytimes.com/2010/05/26/technology/26apple.html>.

69. Eric Engelman, *Amazon Builds Digital Music Market Share Versus Apple*, TECHFLASH (May 26, 2010), http://www.techflash.com/seattle/2010/05/amazon_ties_walmart_as_no_2_music_retailer_behind_itunes.html.

70. *NewsHour Extra: The Napster Debate*, PBS (May 31, 2000, last updated Dec. 13, 2001), <http://www.pbs.org/newshour/extra/features/jan-june00/napster.html>.

71. *Id.*

72. *A&M Records, Inc v. Napster, Inc.*, 114 F. Supp. 2d 896 (N.D. Cal. 2000), *aff’d*, 284 F.3d 1091 (9th Cir. 2002).

73. Jim Hu, *Napster: Gimme Shelter in Chapter 11*, CNET NEWS (June 3, 2002), http://news.cnet.com/Napster-Gimme-shelter-in-Chapter-11/2100-1023_3-930467.html.

74. *Id.* A version of Napster now exists through the electronics store Best Buy, offering a set amount of music for a monthly subscription fee. See NAPSTER, <http://www.napster.com> (last visited Nov. 14, 2010).

75. Bob Keefe, *And Now, Apple, The Music Store Net Site to Sell Tunes for 99 Cents*, COX NEWS SERVICE, Apr. 29, 2003, available at 2003 WLNR 2156223.

76. Rex Crum, *Apple Rises After Beating Q3 Estimates*, CBS MARKETWATCH (July 17,

two-thirds of the digital music market.⁷⁷ CD sales were down 8 percent, and CD singles had fallen 27 percent in the same time period.⁷⁸

One of the perks the music industry received under the initial iTunes agreement was digital rights management, or DRM.⁷⁹ The industry wanted DRM to prevent users from making endless copies of songs once they had paid to download them on iTunes, and it also restricted iTunes songs to Apple devices, which at the time included only iPod music players and computers loaded with iTunes. In response to pressure from Apple, record label EMI agreed to lift the DRM protection in April 2007.⁸⁰ The price of the unprotected songs was raised to \$1.29 per song.⁸¹ At the time, EMI said that selling songs without the DRM was not an Apple-exclusive deal, and it also disclosed that the pricing structure was “strictly dictated by Apple.”⁸² The rest of the record labels agreed to give up DRM as part of a January 2009 deal that allowed variable music pricing in iTunes.⁸³ Songs on iTunes no longer have DRM protection, so buyers can burn as many CD copies as they like, as well as play the songs on other devices.⁸⁴ Analysts now recognize that Apple dominates the digital download market, despite the existence of competing services such as Amazon’s digital music sales and streaming services like Pandora and Spotify.

In 2009, global recorded music sales dropped by 7.2 percent, from \$18.3 billion to \$17 billion.⁸⁵ This reduction marked the tenth straight year of declining music sales. Global digital sales, which grew 9.2 percent in 2009, now account for a quarter of all music sales; however, the growth in digital sales did not offset the drop in CD sales.⁸⁶ The statistics for U.S. music sales are even grimmer: Single-track digital sales

2003), <http://www.marketwatch.com/story/apple-rises-after-beating-q3-estimates>.

77. Therese Poletti, *Apple: Don't Mess With 99 Cents*, SAN JOSE MERCURY NEWS (Calif.), May 3, 2006, at Business 1.

78. *Id.*

79. DRM is a “far-reaching term that refers to any scheme that controls copyrighted material using technological means.” Julia Layton, *How Digital Rights Management Works*, HOWSTUFFWORKS, <http://computer.howstuffworks.com/drm.htm> (last visited Dec. 14, 2010).

80. Owen Gibson & Bobbie Johnson, ‘*Big Step Forward in Music Revolution*’ Hailed As *EMI Drops Copy Protection*, THE GUARDIAN (London), Apr. 3, 2007, at 11, available at 2007 WLNR 28335533.

81. Michael E. Rau, *Is the Music Industry Getting Smart?*, DAILY PRESS, (Newport, Va.) Apr. 9, 2007, at D3, available at 2007 WLNR 6776136.

82. *Id.*

83. Tim Arango, *iTunes Agreement Fails to Quell Discontent at Music Labels*, INT’L HERALD TRIB., Feb. 3, 2009, at Finance 11, available at 2009 WLNR 2004598.

84. Christopher Breen, *DRM-Free iTunes: What It Means for You*, PCWORLD.COM (Apr. 7, 2009), http://www.peworld.com/article/162732/drmfree_itunes_what_it_means_for_you.html.

85. Robert Andrews, *2009 Music Sales Shed \$1 Billion While U.S. Downloads Stagnant*, THE GUARDIAN (London), Apr. 29, 2010, available at 2010 WLNR 8813579.

86. *Id.*

were basically stagnant in 2009, showing a 1.1 percent rise.⁸⁷

There are some storm clouds on the horizon for Apple and for the record labels that contracted with it. (Analysts refer to the music industry as firmly in Apple's pocket.)⁸⁸ Streaming services gain in popularity, possibly cutting into Apple's digital download model.⁸⁹ In 2010, the U.S. Justice Department began a preliminary investigation into whether Apple had pressured music labels to exclude Amazon from certain licensing agreements.⁹⁰

The music industry's example shows that newspapers should avoid becoming too tied to Apple when it comes to bargaining for a presence on the iPad. The movie and television industries, taking a lesson from the record labels, are driving a harder bargain when it comes to Apple's hopes for its Apple TV device.

B. *Movies and Television*

Apple did not promote movies on the iPad at the device's launch in late January 2010. This could be because the small, portable iPad simply is not an ideal platform on which to view movies, but it could also be because the movie industry has been more successful than the music industry in hanging onto its rights. Apple has struggled to promote its Apple TV device, which debuted in 2007, largely because it has not been able to acquire movies and television shows for the iTunes store.

The movie industry is healthier now than the music industry was in 2003. "According to the Motion Picture Association of America, the worldwide movie box office has grown steadily, from \$23.1 billion in 2005 to \$29.9 billion in 2009. Attendance has also increased slightly, from 1.38 billion in 2005 to 1.42 billion in 2009."⁹¹ Numbers did drop in 2010, with an attendance drop of 5.4percent from 2009. Revenues, however, were down less than expected due to more expensive 3-D tickets.⁹²

87. *Id.*

88. "Since 2000, the music industry has most spectacularly flailed (and failed) to combat the Net's effect on its business model." Tim Jones, *12 Trends to Watch in 2010*, ELEC. FRONTIER FOUND. (Jan. 13, 2010), <https://www.eff.org/deeplinks/2010/01/trends-2010>.

89. Antony Bruno, *In Pursuit of a Stream: Mobile Downloads Give Way to On-Demand Streaming*, BILLBOARD, Feb. 13, 2010, at 12, available at 2010 WLNR 3523855; see also Allie Townsend, *Spot On! Online Jukebox Spotify Streams Free Music and Shares It With Friends*, TIME, Aug. 8, 2011, at 60.

90. Miguel Helft, *Apple Shifts From Underdog to Role of Bully*, INT'L HERALD TRIB., June 25, 2010, at Finance 1, available at 2010 WLNR 12756661.

91. Victor Godinez, *Movie, Book, Game Companies Fight to Survive Plunge Into Internet Age*, THE DALLAS MORNING NEWS, Apr. 5, 2010, available at 2010 WLNR 7046498 (stating analysts attribute the increased sales to the rise of 3-D movies with more expensive tickets).

92. *2010 a Terrible Year for Movie Attendance*, IMDB.COM (Jan. 3, 2011),

Hollywood has proved resistant to agree to Jobs's desire to set price controls for films, much as he had for songs.⁹³ Apple struggled to acquire movies for the iTunes store, which led to slow sales for the early version of its Apple TV, on which Apple hoped to link visuals from iTunes to televisions. Apple brought out a new, \$99 version of Apple TV in late August 2010, which sold 1 million units in the space of three months.⁹⁴ The new device came with new pricing: Apple offered rentals of television shows for ninety-nine cents, as opposed to its old pricing, which ranged from \$1.99 to \$2.99 per show. However, iTunes only offered shows from two major television networks.⁹⁵ ABC and News Corp.,⁹⁶ the parent of Fox, signed on, but NBC, CBS, and the majority of the Hollywood studios declined to offer content through iTunes.⁹⁷ Apple reportedly keeps 30 percent of the revenue from the Apple TV sales.⁹⁸

iTunes is far from the only game in town for television and movie downloads. The popular subscription service Netflix offers all-you-can-watch subscriptions to television shows along with cheap movie rentals.⁹⁹ Recent episodes of most television shows can be watched for free on Hulu.com.¹⁰⁰ Armed with options for selling content that the music industry does not have, movie and television studios have found themselves in a better position to resist Apple and the iTunes store, and iTunes' offerings reflect that fact.

The book industry, similarly, used an Apple competitor to gain some leverage in its negotiations, although—interestingly—it wound up with terms that were nearly identical to those given the music industry.

<http://www.imdb.com/news/ni6605376>.

93. Godinez, *supra* note 91.

94. Heather Leonard, *The Apple Investor: Apple TV Should Surpass 1 Million Units This Week, Where's the TV and App Store?*, BUSINESS INSIDER (Dec. 22, 2010), <http://www.businessinsider.com/the-apple-investor-dec-22-2010-12>.

95. David Sarno & Dawn Chmielewski, *Apple's 99-Cent Gamble*, BALTIMORE SUN, Sept. 2, 2010, at 14A.

96. Because Rupert Murdoch and Steve Jobs have a good relationship, Fox's participation was not a surprise. See the discussion of *The Daily*, *supra* note 56.

97. *Id.*

98. *Id.*

99. Netflix charges \$7.99 a month for all-you-can-watch streaming to any device that will play its content. NETFLIX, <https://www.netflix.com/MediaCenter/HowNetflixWorks> (last visited Dec. 14, 2011).

100. "Hulu brings together a large selection of videos from over 260 content companies, including FOX, NBCUniversal, ABC, Criterion, A&E Networks, Lionsgate, Endemol, MGM, MTV Networks, Comedy Central, National Geographic, Digital Rights Group, Paramount, Sony Pictures, Warner Bros., TED and more." HULU, <http://www.hulu.com/about> (last visited Dec. 14, 2011). Hulu also has a premium service, costing \$7.99 a month, to access its full catalog from smartphones and other devices. *Id.*

C. Books

Book publishers have, for the most part, welcomed the iPad because it has given them some leverage in their fight with online retailer Amazon over e-book prices. Amazon released the first version of its Kindle reader in late 2007 to lukewarm reviews.¹⁰¹ Although Amazon does not release exact sales figures,¹⁰² the device caught on, and the online bookseller now claims more than 775,000 titles in its Kindle division.¹⁰³ Moreover, as of March 2010, just prior to the release of the iPad, Amazon held a comfortable 90 percent share of the American electronic book market.¹⁰⁴ Amazon prices best-sellers and new releases at \$9.99, far below the print cost of hardcover new releases, which are usually priced in the \$25 range, with some titles as high as \$35.¹⁰⁵ In addition, publishers' agreements with Amazon were punishing: Amazon's take of book revenue in the original Kindle agreement was reportedly 65 percent.¹⁰⁶

Apple signed on five of the six major publishers—Hachette Book Group, HarperCollins Publishers, Macmillan, Penguin, and Simon & Schuster—in time for the iPad launch.¹⁰⁷ Its iBookstore pricing ranges from \$12.99 to \$14.99. Apple reportedly keeps 30 percent of the revenue, and publishers get the other 70 percent.¹⁰⁸ Although these are similar to the terms Apple gave to music publishers and has offered to newspaper publishers, Apple's deal with book publishers is much better than the deal the book publishers originally received from Amazon. Publishers negotiated a deal with Apple that gave them power over pricing, because they "had all but lost that power on Amazon's Kindle e-

101. Wailin Wong, *A New Chapter for E-book Producers*, CHICAGO TRIBUNE, Nov. 20, 2007, at C1.

102. The New York Times reports that "[w]e don't know the size of Amazon's Kindle business because the company is averse to disclosing details of its operations." Randall Stross, *E-Book Wars: The Specialist vs. the Multitasker*, N.Y. TIMES, Aug. 8, 2010, at BU3, available at 2010 WLNR 15766076.

103. KINDLE STORE, http://www.amazon.com/kindle-store-ebooks-newspapers-blogs/b/ref=topnav_storetab_kinc?ie=UTF8&node=133141011 (last visited Dec. 14, 2011).

104. Motoko Rich & Brad Stone, *A Rift at Amazon on E-Book Prices*, N.Y. TIMES, Mar. 18, 2010, at B1, available at 2010 WLNR 5630732.

105. AMAZON, <http://www.amazon.com/Kindle-eBooks/> (last visited Dec. 14, 2011); interview with Suzanne Fischer, chief buyer at The Bookies bookstore, Denver, Colo., in Scottsdale, Ariz. (Mar. 24, 2011). Disclosure: Fischer is the author's mother.

106. Siphon Hlongwane, *Apple, Soon-to-Be an eBook Dominator*, THE DAILY MAVERICK (South Africa), Sept. 22, 2010, available at <http://www.thedailymaverick.co.za/article/2010-09-22-apple-soon-to-be-an-ebook-dominator>.

107. Motoko Rich, *Publishers Get Chance to Rewrite E-Book Prices*, INT'L HERALD TRIB., Jan. 29, 2010, available at 2010 WLNR 1830968. Random House, the largest publisher of trade books, held out and did not sign with Apple. *Id.*

108. *Id.*

reader.”¹⁰⁹ Amazon acquired books wholesale and set the consumer price. The Apple deal is not a sweetheart deal for publishers by any means, however: Apple requires publishers not to sell e-books through other retailers for less than they sell in the iBookstore.¹¹⁰

Amazon has responded to the competition. In November 2010, the online retailer announced new terms for its Kindle books. Amazon now mimics Apple’s 30 percent / 70 percent revenue share.¹¹¹ Amazon remains the top online bookseller as well. Apple’s iBookstore does not yet have the full range of titles that Amazon does, although it is catching up. The lone holdout among the major publishers, Random House, made its titles available through the iBookstore as of March 1, 2011.¹¹²

The iPad was a boon to book publishers because it provided an alternative to the Kindle, which threatened to hold book publishers in the same near-monopoly grip in which Apple and the iTunes store hold music producers. Electronic books, in contrast to music and newspaper sales, but much like television downloads, are a booming market. Book publishers did not need the iPad as the only vehicle by which to sell e-books, so they were in a much better position to negotiate with Apple than was the music industry.

III. CAN NEWSPAPERS USE THE IPAD WITHOUT BEING AT APPLE’S MERCY?

While in the short term, the iPad and capability to distribute through the iTunes store look extremely attractive, newspapers could in the long run find themselves in the same position they were before the iPad’s January 2010 debut. Newspapers can take a lesson from iTunes offerings of the past and cultivate competitors in order to wring the best terms from Apple that they possibly can. There is a possibility that the federal government will step in, perhaps with an antitrust exemption to allow newspapers to collude on pricing. But free-speech concerns about how independent the press can be if it is getting government funding will probably nip such efforts in the bud.

109. *Id.*

110. Rich & Stone, *supra* note 104.

111. Dan Frommer, *Amazon Opens the Door to an Apple Newspaper Store*, BUSINESS INSIDER, Nov. 8, 2010, available at 2010 WLNR 22340426.

112. See RANDOM HOUSE, www.randomhouse.com/ebooks (last visited Mar. 27, 2011). Random House adopted the “agency model” across the board, and also sells its books through independent bookstore websites. *ABA Applauds Random House Move to Agency Model for E-Books*, AMERICAN BOOKSELLERS ASSOCIATION (Feb. 28, 2011), <http://news.bookweb.org/news/aba-applauds-random-house-move-agency-model-e-books>.

A. *Ceding Control and Revenue to Apple*

Newspapers need a presence in the app market. The Reynolds Journalism Institute at the University of Missouri reports that more than nine out of ten of those who spend at least an hour a day reading news on their iPads said they are much more likely to read the newspaper through an app as opposed to through the newspaper's website on a browser.¹¹³ The survey also showed a "moderately strong" correlation between subscribers who used the iPad apps and those who canceled print subscriptions or reported that they soon planned to do so.¹¹⁴ The Reynolds Institute study raises the specter that the iPad, rather than luring in new subscribers, will simply convert newspapers' current subscribers to the digital version. News Corp.'s James Murdoch expressed this fear in November 2010 when he called newspaper apps "much more directly cannibalistic of the print products" than their websites.¹¹⁵ Yet, the Reynolds survey also contained some good news for publishers: News reading is the most popular activity on the iPad, and more than three-fourths of the survey respondents reported spending thirty minutes or more using the iPad to follow the news.¹¹⁶ Thus, newspapers are going to want their piece of the tablet market, which—at least right now—means cooperating with Apple.

The main "hang-ups" reported in early news coverage of Apple's proposed iNewspaper store were who would control data about users and how subscription revenue would be split.¹¹⁷ Analyst Ken Doctor¹¹⁸ called Apple a "middleman" trying to insert itself in a way that does not exist in other industries, comparing the company to Sony demanding a cut of revenue for television shows that air on its sets.¹¹⁹ Other leaders in the newspaper industry were also nervous about the idea of ceding any control to Apple. At the 2010 World Editors Forum in Hamburg, Germany, Juan Senior cautioned newspapers to not "impulsively bite the

113. Respondents were very likely (71.8 percent) or somewhat likely (21.2 percent) to use a newspaper's app for reading news and feature stories as opposed to using a Web browser. Roger Fidler, *RJI-DPA Fall 2010 iPad Survey Highlights*, DONALD W. REYNOLDS JOURNALISM INSTITUTE, Oct. 20, 2010, available at <http://www.rjionline.org/news/tji-dpa-fall-2010-ipad-survey-highlights>.

114. *Id.*

115. James Murdoch Says Apps Cannibalise Newspapers, REUTERS (Nov. 12, 2010), <http://uk.reuters.com/article/idUKTRE6AB2L820101112>.

116. Reynolds Study, *supra* note 113.

117. Sarah Rabil, Adam Satariano & Peter Burrows, *Apple Said to Negotiate With Publishers Over Digital Newsstand*, BLOOMBERG (Sept. 17, 2010), <http://www.bloomberg.com/news/2010-09-17/apple-said-to-negotiate-with-publishers-over-digital-newsstand-for-ipad.html>.

118. Doctor, the author of *NEWSONOMICS* (2010), writes about the business side of digital news for the Nieman Journalism Lab and other websites.

119. Rabil et al., *supra* note 117.

Apple” because he did not want to see the newspaper industry suffer the same fate as the music industry.¹²⁰ Losing the ability to control pricing and customers’ data, Senor told conference attendees, was not worth access to the iPad.¹²¹

Analysts’ and publishers’ fears were founded. The subscription terms released in February 2011 included: 1) Apple takes a 30 percent cut of sales through iTunes; 2) newspapers cannot offer subscriptions elsewhere at prices lower than through iTunes, but they do still have the option to sell iPad app subscriptions through their own websites; and 3) subscribers have to opt in to allow Apple to share their information with publishers.¹²² The price controls especially concerned publishers because Apple could offer subscribers the lowest possible price, knowing that their agreement prevents newspapers from undercutting Apple.¹²³ However, because of publishers’ outcry, Apple quietly dropped this provision, allowing newspapers to sell subscriptions outside of iTunes at any price they chose.¹²⁴ Apple did still require that publishers, if they do offer an app through iTunes, not steer subscribers outside the app to newspaper websites.¹²⁵

Those publishers—including The Wall Street Journal, the Financial Times and digital magazine newsstand Zinio—that Apple has allowed to sell subscriptions outside the iTunes store can still do so.¹²⁶ However, Apple is under no formal commitment to let such arrangements continue.¹²⁷ Newspapers that sell through the iTunes store can still track their print subscriptions, of course, but they will lose the ability to track subscribers that switch from their print product to the iPad app unless those subscribers opt in. “No one’s suggesting that Apple has to be a common carrier, but I think people are starting to take notice of how they

120. Marek Miller, *Does iPad Really Offer a Second Life for Newspapers?*, FORUM4EDITORS (Oct. 7, 2010), <http://forum4editors.com/2010/10/does-ipad-really-offer-a-second-life-to-newspapers/>.

121. *Id.*

122. Jeff Bercovici, *Why Publishers Don’t Like Apple’s New Subscription Plan*, FORBES (Feb. 15, 2011), <http://blogs.forbes.com/jeffbercovici/2011/02/15/why-publishers-dont-like-apples-new-subscription-plan/>.

123. “Apple’s saying to subscribers, ‘You’ll never have reason to leave because your subscription will always be lowest here.’” Patrick May, *Apple Angles for Position of Power in Publishing World*, TRIBUNE NEWS SERVICE (Apr. 13, 2011), http://www.canada.com/story_print.html?id=4608167 (quoting Ron Adner, Associate Professor at the Tuck School of Business, Dartmouth College).

124. Miguel Helft, *Apple Gives Publishers a Sales Break*, N.Y. TIMES, June 9, 2011, available at <http://www.nytimes.com/2011/06/10/technology/10apple.html>.

125. *Id.*

126. Shira Ovide & Yukari Iwatani Kane, *Apple Coaxes Publishers to Join it on iPad Subscriptions*, WALL ST. J., Sept. 20, 2010, available at <http://online.wsj.com/article/SB10001424052748704416904575501912896373130.html>.

127. *Id.*

deal with their potential,” says John Sturm, president and CEO of the NAA.¹²⁸

B. *The Government is Not a Potential Solution*

The Federal Communications Commission (“FCC”) on June 9, 2011, released a report on the future of journalism in a digital age.¹²⁹ The FCC pointed out that although the Internet offered more choices than ever, those choices did not necessarily translate into quality reporting.¹³⁰ The lack of quality news means that journalism’s traditional function as an independent watchdog is at risk.¹³¹ The federal government has assisted newspapers in the past. For example, the 1970 Newspaper Preservation Act created joint operating agreements as a way to preserve unique editorial voices in markets with one failing newspaper.¹³² But further help, such as possible government subsidies, raises red flags because of the First Amendment’s guarantee of freedom of the press.

The Federal Trade Commission (“FTC”), which is in the middle of a study on the future of journalism, has proposed some policy ideas in order to generate discussion, although they are currently only ideas for staff discussion.¹³³ These ideas include:

- Give newspapers some copyright protection in the facts in their stories and/or limiting the fair use protections now enjoyed by aggregators;¹³⁴
- Require a license fee for news content;¹³⁵
- Create some sort of national antitrust exemption allowing news organizations to agree jointly to erect pay walls so that consumers must pay for access to online content, or allow

128. Bennett & Sturm interview, *supra* note 52.

129. STEVEN WALDMAN, FED. COMM’N COMM’N, THE INFORMATION NEEDS OF COMMUNITIES (2011), available at http://transition.fcc.gov/osp/inc-report/The_Information_Needs_of_Communities.pdf [hereinafter FCC Report].

130. *Id.* at 6.

131. *Id.* at 5.

132. “In the public interest of maintaining a newspaper press editorially and reportorially independent and competitive in all parts of the United States, it is hereby declared to be the public policy of the United States to preserve the publication of newspapers in any city, community, or metropolitan area where a joint operating arrangement has been heretofore entered into because of economic distress or is hereafter effected in accordance with the provisions of this chapter.” 15 U.S.C. § 1801 (2010).

133. FED. TRADE COMM’N, FED. TRADE COMM’N STAFF DISCUSSION DRAFT: POTENTIAL POLICY RECOMMENDATIONS TO SUPPORT THE REINVENTION OF JOURNALISM (2010), available at <http://www.ftc.gov/opp/workshops/news/jun15/docs/new-staff-discussion.pdf> [hereinafter FTC Draft].

134. *Id.* at 9-11. Copyright law traditionally does not protect facts. See Feist Publ’ns, Inc., v. Rural Tel. Serv. Co., 499 U.S. 340, 347 (1991).

135. FTC Draft, *supra* note 133, at 12-13.

newspapers to agree jointly on a mechanism to require news aggregators and others to pay for the use of online content;¹³⁶

- Create a “journalism” division of the service program AmeriCorps that would allow young people to gain journalism experience and increase the number of journalists covering communities;¹³⁷ and/or
- Either increase tax breaks to newspapers or subsidize newspapers that hire more journalists.¹³⁸

The reaction to these ideas was lukewarm at best. FTC chairman Jon Leibowitz said at a Senate hearing that any antitrust exemptions were a terrible idea, and opinion pieces on newspaper editorial pages expressed discomfort with the idea of government intervention.¹³⁹ Former FCC commissioner Meredith Attwell Baker told a Capitol Hill media summit that “[D]irect government funding of journalism would . . . erode the public’s attitude towards media, an attitude already characterized by more skepticism than trust.”¹⁴⁰ The FTC has not released a final report with recommendations.

The FCC report did recommend some changes in the way the government treats media, but its recommendations stop far short of any government assistance or subsidies. The report specifically said that the government was not the “main player” in the changing media landscape and that the First Amendment circumscribed any government efforts to assist local news media.¹⁴¹ The FCC did recommend that the government direct its advertising efforts toward local news media outlets in order to funnel money toward their work.¹⁴²

The newspaper industry is animated by Constitutional concerns that other industries that have contracted with Apple do not share. The free press plays a watchdog role, reporting on and, more importantly, criticizing the government. Justice Hugo Black called the press a “constitutionally chosen means for keeping officials elected by the people responsible. . . .”¹⁴³ This watchdog role makes any government action protecting newspapers’ financial situation problematic. How can

136. *Id.* at 13.

137. *Id.* at 17.

138. *Id.* at 19-21.

139. See Jeremy W. Peters, *Government Takes On Journalism’s Next Chapter*, N.Y. TIMES, June 13, 2010, at B7, available at http://www.nytimes.com/2010/06/14/business/media/14ftc.html?_r=1&fta=y.

140. Meredith Attwell Baker, Commissioner, FCC, Remarks at the Capitol Hill Media Summit (Sept. 15, 2010), available at 2010 FCC LEXIS 5578 at *4.

141. “Government is not the main player in this drama, and the First Amendment circumscribes government action to improve local news.” FCC Report, *supra* note 129, at 28.

142. *Id.* at 29.

143. *Mills v. Alabama*, 384 U.S. 214, 219 (1966).

the free press continue to criticize the government if government subsidies are helping it out? The FCC report and the reaction to the FTC's early recommendations show that any government intervention is unlikely and that newspapers are on their own when negotiating with Apple.

C. Possible Workarounds for Newspapers

Newspapers need to be on the iPad, but they should explore workarounds to being a part of the iTunes Store. Alternatively, newspapers should use competitors, like Google and Amazon, to gain leverage in their negotiations with Apple. Newspapers will have to give up some control in order to be a presence on the iPad because Apple is a closed universe and has full control over what goes into iTunes. Apple already has censored some proposed iPad applications for their content.¹⁴⁴ Tim Wu, among others, raises the specter of a content-controlling Apple that determines what gets to be on its devices.¹⁴⁵

Some newspapers already have applications that circumvent iTunes. The Columbus (Ohio) Dispatch created an iPad app that's free to print subscribers and carries a nominal charge for nonsubscribers and is linked to the newspaper's digital subscriber database, not the iTunes store.¹⁴⁶ A company called Clickshare sells subscriptions and takes payments on newspaper iPad apps, allowing them to operate without tunneling through the App store.¹⁴⁷ The Columbus Dispatch approach looks promising for newspapers that want to deliver content through an iPad app but do not want to sign Apple's agreement in order to sell in the iTunes store. This option is still available, but Apple could step in at any time to prohibit it. Apple barred European publishers from bypassing the iTunes payment system, telling them to stop offering free editions elsewhere by April 1, 2011.¹⁴⁸

Book publishers were successful in using the new competition—which for them, was Apple—to get more favorable terms out of Amazon. Newspaper publishers could use Amazon against Apple in much the

144. A Danish newspaper filed a complaint against Apple to the European Commission after Apple rejected its application featuring topless women. Martin Bryant, *Newspaper Complains to European Commission after Apple Rejects Topless Girls App*, TNW EUROPE (Apr. 12, 2010), <http://thenextweb.com/eu/2010/12/04/newspaper-complains-to-european-commission-after-apple-rejects-its-topless-girls-app/>.

145. Wu, *supra* note 2, at 292.

146. Damon Kiesow, *Columbus Dispatch Pairs iPad Edition with Print Subscription*, POYNTER (Sept. 26, 2010), <http://www.poynter.org/latest-news/media-lab/mobile-media/105901/columbus-dispatch-pairs-ipad-edition-with-print-subscription/>.

147. CLICKSHARE, <http://www.clickshare.com/> (last visited Dec. 14, 2011).

148. *European Papers: Apple Pushing Sales Via iTunes*, ASSOCIATED PRESS, Feb. 7, 2011, available at Westlaw, 2/7/11 AP Alert - CA 19:36:47; *Rupert Murdoch's iPad Daily: Who Needs Paper?* ECONOMIST, Feb. 5, 2011, at 76, available at 2011 WLNR 2276337.

same way. Amazon sells newspaper subscriptions for its Kindle. While a Kindle does not have the interactivity possibilities of the iPad, Amazon is keen to stay in the newspaper business. The online bookseller carried versions of newspapers on the Kindle from the beginning, taking the same 70 percent of revenue it did from book publishers. But when Amazon changed its terms for book publishers in November 2010, it did for newspapers as well.¹⁴⁹ And Amazon now has a Kindle app that makes any subscriptions bought through Kindle available on the iPad.¹⁵⁰ While using this app requires that the reader also own a Kindle, 40 percent of iPad owners do also own Kindles, and the Kindle sold well during the 2010 holiday buying season.¹⁵¹ Apple is responding to this loophole, however: Apple denied a Sony Reader app that would allow iPad owners to access the online Sony Reader store through the app and buy books there.¹⁵²

Another competitor gives newspapers some leverage: Google. Google, whose Android operating system-backed smartphones are fast catching up with the iPhone, announced its own newspaper subscription plans just a day after Apple.¹⁵³ Google will take a 10 percent share of revenue through its “Google One Pass” subscription system.¹⁵⁴ Many of the new tablets shown at the 2011 Consumer Electronics Show feature Google’s recently updated Android operating system or Microsoft’s Windows operating system, so their users will not be able to access the iTunes Store, at least not on these devices.¹⁵⁵ The tablet-computer market is growing, with Amazon releasing its own alternative to the iPad in late 2011 and Google refining its Android-system tablets.¹⁵⁶ Although Apple’s biggest rival, Samsung, has only a 12.5percent market share, it’s investing in its tablet and has no intention of ceding the market to

149. Mark Milian, *Amazon.com Courts Newspaper Publishers for Kindle*, CNN (Nov. 9, 2010), <http://edition.cnn.com/2010/TECH/mobile/11/09/kindle.newspapers/>.

150. *Id.*

151. Erick Schonfeld, *Survey Says: The iPad is Not a Kindle Killer*, TECHCRUNCH (Jan. 3, 2011), <http://techcrunch.com/2011/01/03/ipad-not-kindle-killer/>.

152. Claire Cain Miller & Miguel Helft, *Apple Moves to Tighten Control of App Store*, N.Y. TIMES, Feb. 1, 2011, at B9, available at <http://www.nytimes.com/2011/02/01/technology/01apple.html?scp=1&sq=Apple%20Sony&st=cse>. The article quotes an Apple spokeswoman: “We have not changed our developer terms or guidelines.”

153. *Google Unveils Payment Platform for Online Content*, AGENCE FRANCE-PRESSE (Feb. 16, 2011, 16:33), available at www.google.com/hostednews/afp/article/ALeqM5g_X53Ir-X98eqaoMCzN70iP3ucBA [hereinafter *Payment Platform*].

154. *Id.*

155. Sarno & Pham, *supra* note 6; *Payment Platform*, *supra* note 153.

156. Tablet sales are expected to outpace netbook sales by 2012. Verne G. Kopytoff & Ian Austen, *As PCs Wane, Companies Look to Tablets*, N.Y. TIMES, Aug. 19, 2011, available at http://www.nytimes.com/2011/08/20/technology/as-pcs-wane-companies-look-to-tablets.html?pagewanted=1&_r=1.

Apple.¹⁵⁷ One city's newspapers teamed up to offer iPad competitors a boost. Philadelphia's *Inquirer* and *Daily News* are trying to entice subscribers to choose an Android tablet over the iPad, offering half-price Android tablets to subscribers of their digital editions.¹⁵⁸

The presence of two competitors poised to take on Apple is good news for newspaper publishers. Where the music industry, desperately in need of a way to make money off of digital downloads, was at Apple's mercy, the film and television industries, with several other working models to make money off of digital content, did not really care if they had a presence on iTunes. And book publishers were able to play Amazon, Apple's biggest competition in the e-book world, against Apple, which wanted a piece of the e-book market. The newspaper industry has options for designing for the tablet, but yet not contracting with Apple in the iTunes store, and publishers should use those options to negotiate the best deal with Apple that they possibly can.

CONCLUSION

The iPad represents newspapers' best bet to reclaim some of their lost revenue and begin charging for content again. Unfortunately for newspapers, the iPad is controlled by Apple, which is not exactly known for offering generous terms to the industries with whom it contracts. While the government could offer newspapers some protection, this does not seem likely based on early reactions to the FCC and FTC reports. Consequently, newspapers' best shot at gaining readers through the iPad without selling out to Apple is to follow the lead of industries that have cultivated competitors and found other options for getting their content to users, and not sign on entirely to the Apple store.

157. *Id.*

158. Lucia Moses, *Philly Papers to Sell Android Tablets*, ADWEEK (July 11, 2011), <http://www.adweek.com/news/press/philly-papers-sell-android-tablets-133285>.

THE UTAH BIOPROSPECTING ACT OF 2010: (UNINTENTIONAL) STATE-LEVEL IMPLEMENTATION OF THE UNITED NATIONS CONVENTION ON BIODIVERSITY

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To stay experimentation in things social and economic is a grave responsibility. Denial of the right to experiment may be fraught with serious consequences to the nation. It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.¹

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1. *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting).

INTRODUCTION

Human beings have looked to nature for valuable products for millennia. Our ability to exploit biological resources has accelerated along with our fundamental understanding of the life sciences. Populations have similarly expanded exponentially along with demand for such products in markets of ever-increasing size and variety. Whether harvested directly from nature, or cultivated, living things are essential raw materials for biotechnology.² For example, “[a]ccording to . . . [the National Institutes of Health], more than [half] of the most prescribed medicines in the United States contain compounds derived from natural products.”³ Demand for biotechnology products comes mainly from the industrialized world. Corporations and governments alike have reaped the bounty of such advances, and as these markets have matured, inevitable conflicts have arisen. Among these disputes are assertions of inequitable resource exploitation by industrialized nations who fail to compensate less developed, yet biodiversity-rich nations where raw materials used to produce valuable biotechnology goods were first found.

Analogies between biological material extraction and other more traditional resources like minerals and fossil fuels have been made, but they fail to recognize the fundamentally different nature between the two. Likewise, intellectual property-based perspectives alone fail to recognize the desire of sovereign states to assert control over both physical resources and information derived from them. This lack of congruence among governing legal theories is just one example of many similar paradigmatic shifts that “occurred at the time of transition from an industrial to a post-industrial, or information . . . era”⁴

The United Nations (UN) seeks to holistically resolve bioprospecting disputes through the Convention on Biological Diversity (CBD). When a single plant sample, for example, taken from a remote habitat to a distant laboratory, results in a valuable biotechnology product, the CBD encourages the provision of some level of compensation to the source nation to recognize its sovereign rights over all of its resources and to encourage the conservation of biodiversity-rich regions. Inherent in this principal is a recognition that, but for the sovereign nation’s permission to allow bioprospecting research in its territory, such important

2. Chidi Oguamanam, *Beyond Theories: Intellectual Property Dynamics in the Global Knowledge Economy*, 9 WAKE FOREST INTELL. PROP. L.J. 104, 136 (2008-2009), available at <http://ipjournal.law.wfu.edu/files/2009/09/article.9.104.pdf>.

3. Corliss Karasov, *Who Reaps the Benefits of Biodiversity?*, ENVIRONMENTAL HEALTH PERSPECTIVES, Dec. 2001, at A582, available at <http://ehp03.niehs.nih.gov/article/fetchArticle.action?articleURI=info%3Adoi%2F10.1289%2Fehp.109-a582> (“And an even larger percentage of the world’s people rely on natural products for their primary medicinal needs.”).

4. Oguamanam, *supra* note 2, at 138.

biotechnology discoveries and subsequent profits would not be possible. The CBD does not dictate what form such compensation shall take, nor for how long, leaving it to contracting parties to enter into “equitable benefits sharing” agreements that further the goals of the treaty. “The hope of the drafters of the CBD is that, in the future, bioprospecting will also pay off for the source countries of natural products, the people who may one day benefit from as-yet undeveloped drugs, and the Earth itself, as agreements are put into place to protect its fragile and treasured resources.”⁵

2010 was the “International Year of Biodiversity.”⁶ As concern over the health of the environment and its relation to the economy and climate change remains a pressing issue, leaders in industry and government increasingly recognize the value of preserving biodiversity. A biological resource whose potential goes untapped because of extinction risks great loss to all who might one day directly or indirectly benefit from it. Under the non-binding CBD, individual nations and bioprospecting research entities are free to develop contractual relations in their best interests, which have resulted in a number of long-term success stories. Although the United States has not yet ratified the CBD,⁷ it has responded to concerns of bioprospecting-related issues on federal National Park lands through a well-developed system of laws and regulations providing for equitable benefits sharing Cooperative Research and Development Agreements (CRADA) that accomplish similar ends as the CBD.⁸

There are only two examples of state-level responses to perceived gaps in federal CBD treaty non-adoption. Hawaii attempted to enact a statute that draws more from the CBD than the National Park system regulations,⁹ including the CBD’s focus on respect for traditional knowledge of indigenous people.¹⁰ The Hawaiian statute failed, in part

5. Karasov, *supra* note 3, at A587.

6. 2010 International Year of Biodiversity, CONVENTION ON BIOLOGICAL DIVERSITY, <http://www.cbd.int/2010/welcome/> (last visited Nov. 23, 2011).

7. List of Parties, CONVENTION ON BIOLOGICAL DIVERSITY, <http://www.cbd.int/information/parties.shtml> (last visited Nov. 23, 2011).

8. See generally KERRY TEN KATE ET AL., BENEFIT-SHARING CASE STUDY: YELLOWSTONE NATIONAL PARK AND THE DIVERSA CORPORATION (1998), available at <http://www.cbd.int/doc/case-studies/abs/cs-abs-yellowstone.pdf>.

9. See Kenneth R. Conklin, Ph.D, *Kahana Valley Giveaway - Just More of the Same*, HAWAII REPORTER (Feb. 5, 2009), <http://www.angelfire.com/big09a/KahanaGiveawayToEvilEmpire.html> (describing reintroduction of similar bill in Hawaii’s legislature in 2009); Paul Elias, *Bioprospecting: Piracy in Paradise?*, THE SEATTLE TIMES (Jan. 23, 2006), <http://community.seattletimes.nwsourc.com/archive/?date=20060123&slug=btbiotech23>; *Hawaii’s Bold Bid For a Bioprospecting Bill*, SEEDLING, July 2004, at 23, available at <http://www.grain.org/article/entries/428-hawaii-s-bold-bid-for-a-bioprospecting-bill>.

10. Art. 8(j) - Traditional Knowledge, Innovations and Practices, CONVENTION ON BIOLOGICAL DIVERSITY, <http://www.cbd.int/traditional/> (last visited Nov. 23, 2011).

due to its lack of sufficiently stringent benefits-sharing arrangements with the Hawaiian people.¹¹ Utah passed a similar law addressing bioprospecting on its state lands. The state saw an opportunity to proactively exert control over unique biological resources found in its territory, and in so doing, ensure that benefits of their present or future exploitation remain, at least in substantial part, with the state and its citizens. Both Utah's and Hawaii's efforts seem analogous to California's enactment of more stringent emissions standards that resemble the UN Kyoto Protocol, which, like the CBD, the U.S. has not adopted.¹²

The Utah Bioprospecting Act of 2010 is the first state law of its kind, and arose through the lobbying efforts of scientific experts within the state's universities and biotechnology industry. The legislative history of the Act reveals few, if any, considerations of the international bioprospecting experience under the CBD. The Act's history also does not consider the failed attempt by Hawaii to enact a similar statute. The Utah legislature does, however, recognize the related experiences of the federal government with bioprospecting agreements on National Park lands, which have resulted in a comprehensive body of law and regulations that accomplishes goals similar to those Utah seeks for its state lands. Unlike the CBD and Hawaii's failed statute, Utah's admittedly immature new statute strikes a purely economic tone and takes a simple and straightforward approach. It relies on a single administrative agency to enact rules and regulations pursuant to the statute. Given the global nature of biotechnology research and commerce, and the intangible characteristics of biotechnology information, Utah should give more consideration to the legal and policy landscape of the international bioprospecting experience, including the CBD, as it reshapes the statute and related rules through amendments.

I. THE UTAH BIOPROSPECTING ACT OF 2010

A. *Overview of the Statutory Provisions*

The Utah Bioprospecting Act passed with virtually no opposition on May 11, 2010.¹³ It is the first state law of its kind in the United States, although it resembles other federal laws and international treaties in a

11. See, e.g., *Bioprospectors Feel Backlash in Hawaii*, MSNBC.COM (Jan. 21, 2006), http://www.msnbc.msn.com/id/10945323/ns/technology_and_science-science.

12. E.g., Robert Collier, *State Bypasses Kyoto, Fights Global Warming / California Tries To Cut Emissions on Its Own*, SAN FRANCISCO CHRONICLE, Feb. 17, 2005, at A1, available at http://articles.sfgate.com/2005-02-17/news/17362037_1_kyoto-protocol-warming-climate-change.

13. UTAH CODE ANN. §§ 65A-14-101, 201, 202, 301 (Supp. 7A 2011), available at <http://le.utah.gov/~code/TITLE65A/65A14.htm>.

number of ways. The law requires registration prior to state land bioprospecting activities, defined as “the removal from a natural environment for research or commercial use of a naturally occurring microorganism, plant, or fungus, or information concerning a naturally occurring microorganism’s, plant’s, or fungus’ physical or genetic properties.”¹⁴ Registration grants bioprospectors a license and requires those parties to enter into a contract with the state of Utah.¹⁵ In addition to the payment of a registration fee, bioprospectors provide identifying information, as well as a list of specific sites upon which the activity shall occur.¹⁶ The license, if granted, lasts for a period of twelve months, and is renewable.¹⁷

The registration form stipulates that upon signing, and in consideration for a license to bioprospect on Utah state public lands, the registrant agrees “to negotiate in good faith,” and acknowledges that Utah reserves rights to economic benefits derived from the registrant’s current and future activities related to discoveries made on the subject lands listed in the contract.¹⁸ The statute further provides that failure to register bioprospecting activities on lands falling within the jurisdiction of the Act, or, presumably, not abiding by the contractual registration terms, subjects a violator to civil and criminal penalties, including payment of restitution “proportional to the economic interests the state may have under [the Act].”¹⁹

Economic benefits reserved by the state of Utah under the Act are not explicitly defined in the language of the statute, and, instead, are left to administrative rulemaking by the Utah Department of Natural Resources (DNR).²⁰ The legislative history, however, is illustrative, and shows two main types of economic benefits that Utah seeks to “reserve” through the Bioprospecting Act.²¹ In the event a valuable product or process derived from an organism found on Utah state public lands is commercialized, the state shall receive a reasonable royalty, determined from “good faith negotiations.”²²

The legislature readily analogized to extraction of minerals, fossil

14. § 65A-14-102.

15. *See* § 65A-14-202.

16. § 65A-14-201.

17. *Id.*

18. § 65A-14-202.

19. § 65A-14-301.

20. § 65A-14-104; *see* UTAH ADMIN. CODE r. 652-150 (2011), *available at* <http://www.rules.utah.gov/publicat/code/r652/r652-150.htm> (published May 15, 2011, the DNR bioprospecting regulations largely restate the statute).

21. *See, e.g.,* Lyle W. Hillyard, Part I, SB 51s1, audio, UTAH STATE LEGISLATURE (Mar. 1, 2010), <http://le.utah.gov/asp/audio/index.asp?Sess=2010GS&Day=35&House=S> (last visited Nov. 23, 2011).

22. UTAH CODE ANN. § 65A-14-202 (Supp. 7A 2011).

fuels, and many valuable products from the Great Salt Lake for bioprospecting royalties. Utah receives royalties from mineral extraction from all of its territory, including federally managed land.²³ In this regard, “Utah owns these resources” and the rationale for payment of royalties readily applies to products derived from living organisms.²⁴ Utah lawmakers thus saw an important opportunity to extend the long-established royalty system for traditional natural resources to biota-derived products in an analogous way.²⁵

The second class of economic benefit that Utah seeks to “reserve” through the requirements of the Act is to ensure, to the extent possible, that research, development and commercialization of products derived from Utah organisms are carried out in the state of Utah, such that benefits thereof flow primarily to its citizens.²⁶ Reservation of such benefits derives from the assertion that Utah owns all of its unique resources, whether they are living or not.²⁷ The legislators acknowledged that their new statute is merely a framework to build upon through administrative rulemaking by the DNR and by subsequent amendments to the Act, which they anticipate within just one year.²⁸ Despite the admitted vagueness and skeletal nature of the bill, the legislature dubbed the Act “pioneering legislation,” and “ahead of the game.”²⁹

B. *Lobbying Activity Behind the Utah Bioprospecting Act*

Just over a year before the enactment of the Utah Bioprospecting Act on May 11, 2010, the U.S. Department of the Interior canceled nearly one-hundred oil and gas leases on seven million acres of federal land issued via auction in the twilight of the Bush administration.³⁰ The new presidential administration in 2009 brought a “strong message that the

23. Utah Senate Natural Resources, Agriculture, and Environment Committee, Fri. Feb 12, 8:00 AM, audio, Agenda Item 1 - SB0051, UTAH STATE LEGISLATURE (Feb. 12, 2010), <http://le.utah.gov/asp/Interim/Commit.asp?Year=2010&Com=SSTNAE> (last visited Nov. 23, 2011) [hereinafter Agenda Item 1 - SB0051].

24. *Id.*

25. SB051S01, House day 42, audio, UTAH STATE LEGISLATURE, <http://le.utah.gov/jsp/jdisplay/billaudio.jsp?sess=2010GS&bill=sb0051s01&Headers=true> (last visited Nov. 23, 2011) (comparing bioprospecting in Utah to the gold rush).

26. Agenda Item 1 - SB0051, *supra* note 23.

27. *Id.*

28. *Id.*

29. *Id.*; Audio Recordings of Debates, Utah House Natural Resources, Agriculture, and Environment Committee, UTAH STATE LEGISLATURE (Mar. 2, 2010), <http://le.utah.gov/~2010/htmdoc/sbillhtm/SB0051S01.htm> (last visited Nov. 23, 2011) [hereinafter Mar. 2 House Debate] (praising in the face of faint concerns that the Act would stifle rather than encourage growth in target industry sectors consisted of a statement that the royalty requirement brings notoriety to Utah’s already thriving biotechnology industry).

30. *Utah Wilderness Leases Halted*, ENVIRONMENTAL ENTREPRENEURS (Feb. 26, 2009), <http://www.e2.org/jsp/controller?docId=17861&anchorName=UtahLeasesHalted>.

management of the nation's public lands . . . will reflect a more balanced approach than was witnessed over the past eight years.”³¹ Thus, the legislative and lobbying activity leading up to the passage of the Act came on the heels of renewed regulation of federal lands on Utah territory, as well as during a relative boom in the biotechnology industry in the state.³²

Amidst this political and economic climate, a consortium of Utah universities were making remarkable advances in understanding the commercial potential of various microorganisms from the Great Salt Lake and other “extreme” natural habitats.³³ Funded in substantial part by Utah taxpayers, this alternative energy and fossil fuel extraction research showed that organisms unique to Utah had great potential for profitable products and processes.³⁴ Although the policy rationale behind the Act is meant to extend in a general way to bioprospecting activities on Utah state lands,³⁵ the impetus behind the legislation derived from these research findings and was likely also driven by what many lawmakers viewed as the unfavorable cancellation of fossil fuel extraction leases in the recent past.³⁶

This biofuel and fossil fuel extraction-related microbiology research took place on state lands including the Great Salt Lake, the desert salt flats, and arid basins rich in oil shale.³⁷ Several strains of salt lake algae were found to produce high levels of oils that may be more efficiently converted to biofuels.³⁸ These findings had already attracted a great deal of attention from the international scientific community, including biotechnology corporations.³⁹ Parallel discoveries of bacteria that thrive in high-salt habitats made the algae research even more exciting to concerns in Utah and elsewhere. According to the Committee findings, these organisms are also unique to Utah, and they can be integrated into industrial processes to aid in the efficient extraction of oil-based fuels from the algae by eating the plant material, thus releasing the valuable biofuel

31. *Id.*; Juliet Eilperin, *Salazar Voids Drilling Leases On Public Lands in Utah*, WASH. POST., Feb. 5, 2009, at A2, available at <http://www.washingtonpost.com/wp-dyn/content/article/2009/02/04/AR2009020401785.html>.

32. *Utah Wilderness Leases Halted*, *supra* note 30; EdeUTAH, *Another Biotech Company Expands to Utah*, UTAHPULSE.COM (Dec. 1, 2009), http://utahpulse.com/view/full_story/15736772/article-Another-Biotech-Company-Expands-to-Utah?

33. Mar. 2 House Debate, *supra* note 29.

34. *Id.*; Hillyard, *supra* note 21.

35. Agenda Item 1 - SB0051, *supra* note 23 (pointing to past research activities within the state aimed at discovery of pharmaceutical compounds, which is a traditional goal of bioprospecting).

36. *Id.*; Mar. 2 House Debate, *supra* note 29; Hillyard, *supra* note 21; SB051S01, House day 42, audio, *supra* note 25; *Utah Wilderness Leases Halted*, *supra* note 30.

37. Mar. 2 House Debate, *supra* note 29; SB051S01, House day 42, audio, *supra* note 25.

38. Agenda Item 1 - SB0051, *supra* note 23.

39. *Id.*

components.⁴⁰ Another bacterium was discovered that feeds on oil shale deposits, liberating natural gas in the process and facilitating *in situ* extraction of fossil fuel.⁴¹ These remarkable examples are not meant to exhaust the scope of the Utah Bioprospecting Act, but their timely relevance, given the recent federal lease cancellations and the high level of interest in alternative energy sources, undoubtedly contributed to the ease with which the bill passed and provided the legislature a renewed sense of pride and awe at the previously unknown natural wonders of oft-ignored expanses of their state.⁴²

Another strong voice in support of the Act was the Utah Technology Council (UTC),⁴³ whose mission is to play “a transformative leadership role in the development and passage of legislation impacting Utah’s life science economy.”⁴⁴ In doing so, UTC points to the job creation, and tax and revenue contributions of Utah’s technological industries, which not only benefit the state from within, but “also raise Utah’s stature and competitive strength in the nation.”⁴⁵ UTC boasts that it achieved all fifteen of its lobbying goals for 2010, and summarized the Act as follows after it was signed into law by the governor: The Act is “[d]esigned to strike an enlightened balance between research access to Utah’s microorganisms with protecting/preserving the value of the state’s natural resources.”⁴⁶

UTC’s summary of the Act comports, for the most part, with the legislative history. The licensing process is meant to be simple and non-burdensome, and the goal is “not to impede access, but to protect and utilize” the state’s resources.⁴⁷ The bill’s crafters were careful to point out their awareness of the need to “fine-tune” the Act through administrative rulemaking and statutory amendments.⁴⁸ They were wise to do so—although not clearly cited in the legislative history of the Act, a large body of federal and international law exists that addresses the subject matter of Utah’s new law, as does extensive scholarly legal discourse.

40. Mar. 2 House Debate, *supra* note 29.

41. Hillyard, *supra* note 21.

42. Agenda Item 1 - SB0051, *supra* note 23 (“[these] assets belong to the people of the State of Utah,” and it “would be sad if others capitalized on Utah’s research.”).

43. UTAH TECHNOLOGY COUNCIL, UTC IN REVIEW (2010), available at http://74.63.134.79/getmedia/e404202d-f4fb-401e-96cc-d7e84aebee33/2010_annualreport.aspx.

44. Advocacy, UTAH TECHNOLOGY COUNCIL, <http://utahtech.org/LifeScience/Advocacy.aspx> (last visited Nov. 23, 2011).

45. Richard R. Nelson, *Legislative Priorities for Technology Industries—Achieving Utah’s Most Critical Goals*, UTAH TECHNOLOGY COUNCIL (Apr. 1, 2010, 8:35 AM), <http://utahtech.org/CleanTech/ArticleList/Articles/SingleArticle/Legislative-Priorities-for-Technology-Industries—.aspx>.

46. UTAH TECHNOLOGY COUNCIL, *supra* note 43.

47. Agenda Item 1 - SB0051, *supra* note 23.

48. *Id.*

Given the uniqueness of the Act, Utah will be well-served to consider the successes and failures of such analogous laws. In addition to continuing such pioneering state lawmaking, Utah can and should draw valuable lessons from prior experiences of the federal and foreign governments, and the UN, in sovereign regulation and dispute resolution related to bioprospecting.

II. LESSONS TO BE DRAWN FROM NATIONAL AND INTERNATIONAL MODELS OF BIOPROSPECTING REGULATION

The Federal Technology Transfer Act of 1986⁴⁹ formed the basis of the Yellowstone-Diversa CRADA of 1998,⁵⁰ and the Utah Bioprospecting Act of 2010 seems to be modeled after it, rather than on Hawaii's failed 2004 effort to enact a similar statute.⁵¹ Hawaii's bill drew much from the rationales behind the UN CBD⁵² and Trade-Related Aspects of Intellectual Property Rights (TRIPS)⁵³ agreements.⁵⁴ The Utah approach, on the other hand, appears to be more narrowly tailored to the specific needs of the state, and unlike the Hawaii legislation and UN treaties, is based primarily on economic rationales.

Among the important factors that may account for the successful enactment of the Utah Bioprospecting Act, in contrast to the failed Hawaiian legislation, are that the biotechnology industry is well established in Utah.⁵⁵ Additionally, Utah's indigenous peoples are not as numerous relative to the overall state population compared to Hawaii,⁵⁶ and, alt-

49. 15 U.S.C. §§ 3701-3717 (1986); *see also* 16 U.S.C. § 5935 (1998).

50. KATE, *supra* note 8; Scott T. Preston, *The United States of America: The National Park Experience*, in ACCESSING BIODIVERSITY AND SHARING THE BENEFITS: LESSONS FROM IMPLEMENTING THE CONVENTION ON BIOLOGICAL DIVERSITY 177, 186 (Carrizosa, S. et al. eds., 2004).

51. PETER G. PAN, HAW. LEG. REF. BUR., BIOPROSPECTING: ISSUES AND POLICY CONSIDERATIONS (2006), *available at* <http://hawaii.gov/lrb/rpts06/biocon.pdf>; Eric Goldman, *Utah Passes Nation's First (?) Bioprospecting Regulation*, TECHNOLOGY & MARKETING LAW BLOG (Mar. 10, 2010, 10:50 AM), http://blog.ericgoldman.org/archives/2010/03/utah_passes_nat.htm.

52. *Id.*

53. Agreement on Trade-Related Aspects of Intellectual Property Rights, WORLD TRADE ORGANIZATION, *available at* http://www.wto.org/english/docs_e/legal_e/27-trips.pdf (last visited Nov. 23, 2011).

54. PAN, *supra* note 51.

55. BIOTECHNOLOGY INDUSTRY ORGANIZATION, BIO STATE BIOSCIENCES INITIATIVES 2010, UTAH PROFILE (2010), *available at* http://www.bio.org/sites/default/files/battelle2010/UTAH_profile.pdf.

56. *Compare* HAW. STATE DEPT. OF HEALTH, SPECIAL TABULATION FROM THE HAW. HEALTH SURVEY (2010), *available at* <http://hawaii.gov/dbedt/info/economic/databook/2008-individual/01/> (24% of the overall population of HI are indigenous peoples), *with* U.S. CENSUS BUREAU, UTAH QUICK FACTS (2010), *available at* <http://quickfacts.census.gov/qfd/states/49000.html> (only 1-2% of Utah's population consists of indigenous peoples).

though Hawaii is more biodiverse⁵⁷ and includes marine environments, Utah possesses a number of “extreme” environments which have historically been the focus of bioprospecting research. Although the Utah Act clearly excludes any consideration of indigenous peoples’ rights regarding traditional knowledge, its general tone with respect to “equitable benefits sharing” and case-by-case contractual relations and informed consent closely tracks the framework of the CBD.

A. *International Bioprospecting Regulatory Framework*

International bioprospecting regulation frames the issue in a broad way, and aids in understanding the implications and policy rationales, as well as potential drawbacks, behind the Utah Bioprospecting Act. Just as nations around the world vary on so many levels, so too do the various circumstances in which bioprospecting activities, agreements, and disputes arise, which makes it difficult to formulate a one-size-fits-all set of policies.⁵⁸ Agreements made within the framework of the CBD recognize this, and attempt to balance the respective needs of contracting parties with their often imbalanced bargaining positions.⁵⁹

More often than not, a commercial research concern from an industrialized nation enters into an agreement with a less developed, but more richly biodiverse nation’s⁶⁰ government to bioprospect within its borders. Given the imbalance in target nations’ ability to commercialize their own biodiversity into potentially highly valuable products, bioprospecting activities have been often viewed as constituting “biopiracy[.] . . . a unidirectional transfer of wealth and knowledge.”⁶¹ These concerns have been voiced through various international bodies, including the UN and its World Intellectual Property Organization (WIPO) and World Trade Organization (WTO), and the pressure exerted by mainly developing nations has resulted in at once a fairer and more equitable system, and a somewhat tattered set of alliances, regional pacts, and dispute-resolution authorities.⁶² Given the general lack of harmonization, and the varied nature of disputes arising from case-specific agreements, bioprospecting regulations “remain an evolving and unsettled issue at the international level.”⁶³

57. Goldman, *supra* note 51.

58. See Daniel Rettig, *In Search of Pirate’s Treasure: The Control and Ownership of Genetic Resources in the Mesoamerican Barrier Reef System*, 37 U. MIAMI INTER-AM. L. REV. 261, 276 (2006).

59. See *id.* at 276-77.

60. See CHIDI OGUAMANAM, INTERNATIONAL LAW AND INDIGENOUS KNOWLEDGE: INTELLECTUAL PROPERTY, PLANT BIODIVERSITY, AND TRADITIONAL MEDICINE 6-12 (2006).

61. Oguamanam, *supra* note 2, at 136.

62. See *id.* at 147-48, 152.

63. Philippe Cullet & Jawahar Raja, *Intellectual Property Rights and Biodiversity Man-*

The CBD of 1992 was one of the first quasi-legal international frameworks to seek to balance commercial research access with responsible and incentivized⁶⁴ management and conservation, and provide fair remedies for bioprospecting disputes.⁶⁵ The CBD instructs leaders of nations that biodiversity possesses potentially more valuable and sustainable resources than timber and other raw materials, and that their interests, as well as those of all humanity who inhabit the “global ecology,” are best served by avoiding “quick gains through [its] destruction.”⁶⁶ Developing nations’ concerns directly or tangentially addressed by the CBD include the perceived exploitation of biological resources by industrialized nations (i.e. biopiracy), “the propriety of granting intellectual property rights over living organisms, and technology transfer questions regarding technologies necessary to utilize biological resources.”⁶⁷

The CBD provides for informed consent of the nations targeted for bioprospecting, with the consent-granting authority arising from all nations’ declared ability to assert sovereign property rights, and thus access control, over biological resources within their territorial borders.⁶⁸ In declaring and redefining such sovereign property rights, the CBD seeks to impart on nations engaged in bioprospecting agreements “equitable benefits sharing” in valid and enforceable contractual relations that encourage both access and responsible use, and the return to the country of origin of some fair measure of the subsequent value, if any, derived from the fruits of such research and commercialization.⁶⁹ In return, the product commercializer receives substantial value in the form of technology transfer, and intellectual property rights, if any.⁷⁰

The CBD acknowledges the existence of well-developed international laws and governing bodies like WIPO for the granting of intellectual property rights, and related dispute resolution.⁷¹ Although the treaty carries no enforcement authority, it urges signatories to comport the grant of such rights with core CBD objectives.⁷² The gaps within provisions of the CBD with regard to details of the administration and regula-

agement: The Case of India, in BIODIVERSITY AND CONSERVATION: INTERNATIONAL PERSPECTIVES 166, 167 (A Usha ed., 2007).

64. See Keith Aoki & Kennedy Luvai, *Reclaiming “Common Heritage” Treatment in the International Plant Genetic Resources Regime Complex*, 2007 MICH. ST. L. REV. 35, 47 (2007), available at <http://www.msulawreview.org/PDFS/2007/1/Aoki.pdf>.

65. See Cullet & Raja, *supra* note 63, at 169.

66. See Aoki & Luvai, *supra* note 64, at 47-48.

67. *Id.* at 48.

68. See Cullet & Raja, *supra* note 63, at 168-69.

69. See *id.* at 169.

70. See Graham Dutfield, *TRIPS-Related Aspects of Traditional Knowledge*, 33 CASE W. RES. J. INT’L L. 233, 260 (2001).

71. See Aoki & Luvai, *supra* note 64, at 49-50.

72. See Cullet & Raja, *supra* note 63, at 169 (CBD relies on WIPO for IP-policy-making and on WTO for enforcing IP rights).

tion of intellectual property rights derived from bioprospecting agreements were addressed by TRIPS in 1994.⁷³ Frustrated by a perceived inadequate level of protection of their economic interests by WIPO, the formerly primary international intellectual property rights policy maker, many industrialized nations led by the United States and the European Community heeded the call of their concerned industries to move such “negotiations . . . from WIPO to the GATT [(General Agreement on Tariffs and Trade)], leading to the adoption of the TRIPS.”⁷⁴

Intellectual property-dependent industries, particularly in the U.S., favored the stricter protection potentially available via GATT, as opposed to WIPO, which they believed would not address the negative impact on their global competitiveness due, in part, to patent infringement.⁷⁵ GATT conditioned membership in the WTO, with its attendant full access to industrialized markets, on acceptance of TRIPS and agreement to conform to international intellectual property law.⁷⁶ Since patent rights ensure fair competition, reasoned the GATT, under TRIPS, the general WTO goals of maintaining and enhancing global trade will be advanced.⁷⁷

Since the Utah Bioprospecting Act of 2010 does not anticipate well-studied intellectual property-related disputes either in the U.S. or amongst nations, it suffers from many of the same drawbacks as does TRIPS in light of the CBD. Like those experiences, the Act in its current form relies on a case-by-case approach through specific contract and license drafting, and administrative rulemaking. The straightforward simplicity of the Act is desirable, however, and seems reliant on administrative rulemaking to fill in the gaps. Yet, considering the varied experiences resulting from this approach on the international stage, the lack of harmonization and unified statutory guidance may lead to more, not fewer, disputes. The apparently intentional vagueness of the Utah statute may lead to what are perceived as inequitable benefits sharing agreements as the state applies the new law in an ever more complex

73. *See id.*

74. Laurence R. Helfer, *Regime Shifting: The TRIPs Agreement and New Dynamics of International Intellectual Property Lawmaking*, 29 YALE J. INT'L L. 1, 9 (2004), available at <http://law.vanderbilt.edu/facultyresources/research/702full.pdf>.

75. *See id.* at 19. *But see* Oguamanam, *supra* note 2, at 148 (“Akin to the connection which the United States made between intellectual property and trade which resulted in the co-optation of the WTO into the intellectual property equation, many developing countries have made similar connections between intellectual property and other sites and subject-matters of their collective socio-economic interests.”).

76. *See* Helfer, *supra* note 74, at 19 (GATT 1994 also provided that WTO dispute resolution rulings, including TRIPS, shall be binding on all member states).

77. *See* Sergio Peña-Neira, *Balancing Rights and Obligations in Sharing Benefits from Natural Genetic Resources: International Legal Rules*, in BIODIVERSITY AND CONSERVATION: INTERNATIONAL PERSPECTIVES 15, 25 (A Usha ed., 2007).

global biotechnology economy. As it begins to revamp what is admittedly an immature and skeletal regulatory framework, Utah lawmakers should carefully consider the immense body of both positive and negative practical experiences, and how those experiences interact with the existing body of federal and international law.

B. Instructive International Bioprospecting Experiences

Prior to CBD, developing nations' genetic resources were collected "without compensating the communities and governments of the source countries where the products were found."⁷⁸ Many important pharmaceuticals, for example, developed from raw material collected in this way have yielded multi-million dollar drug products with little, if any, compensation or recognition of the source countries in the developing world.⁷⁹ Many nations have responded to such concerns with their own uniquely-tailored laws, and their experiences have been complicated as the international legal landscape has evolved over time.

The Indian Biological Diversity Act, for example, enacted after India ratified the CBD, needed to be amended following the WTO's imposition of TRIPS.⁸⁰ Like the new Utah statute, India's Act requires a licensing-like procedure predicated on disclosure of intent to engage in commercial bioprospecting research.⁸¹ Likewise, the Indian Biodiversity Authority may contractually impose fees or royalties upon any commercial products derived from bioprospecting activities in India.⁸² Unlike Utah's new law, however, the Indian Biological Diversity Act reserves for India the right to assert joint ownership over any Indian patents issued on the fruits of bioprospecting research.⁸³ The Indian Act, like Utah's statute, also seeks to reserve less direct, yet long-term, financial benefits such as technology transfer.⁸⁴ Although India conceded the ability to assert full patent ownership over bioprospecting-derived commercialization in order to maintain its WTO membership, it crafted regulations that attempt to balance the various interests involved while fulfilling the mandates of the CBD to the fullest extent possible.⁸⁵

The WTO and the Indian government's responses to seemingly "irreconcilable objectives [within] . . . the global intellectual property rights regime . . . attempt[] to not upset the global legal order while simultane-

78. Karasov, *supra* note 3, at A582.

79. *Id.*

80. Cullet & Raja, *supra* note 63, at 173-74.

81. *Id.* at 174; Biological Diversity Act, 2002, No. 18, § 7, Acts of Parliament, 2003 (India) [hereinafter India Biological Diversity Act].

82. India Biological Diversity Act, § 6; Cullet & Raja, *supra* note 63, at 174.

83. Cullet & Raja, *supra* note 63, at 175.

84. *Id.* at 174; India Biological Diversity Act, § 21.

85. *Cf.* Cullet & Raja, *supra* note 63, at 181.

ously refusing to surrender the domestically significant currency of national interest."⁸⁶ Cases like India's successful nullification of a U.S. Patent on a widely used traditional turmeric remedy⁸⁷ illustrate problems arising from the lack of international harmonization of bioprospecting and related intellectual property regulations, and represent the aggressive new stances of foreign governments asserting obscure traditional knowledge as prior art.⁸⁸ This was also an early example of how the interests of sovereign states are accommodated by WTO arbitration under various national laws and the CBD in the global economy context.⁸⁹

Given the global nature of the biotechnology economy, it is only a matter of time before such disputes arise over Utah's assertion of its new Bioprospecting Act, and their resolution will obligatorily involve application of TRIPS and WTO-mediation, as well as possible federal preemption-based challenges to the validity of the law itself.⁹⁰ Future amendments to the Act should anticipate and address these considerations so as to prevent anti-competitive consequences that may tend to work the reverse of the Utah legislature's asserted policy goals.

Commentators argue that bioprospecting benefits-sharing arrangements between researchers and governments should seek to harmonize the often competing provisions of national-level law, TRIPS, and the CBD.⁹¹ The relation of this view to Utah's approach on the subject is readily apparent. Through such contractual, and informed consent-based approaches, all interests that have contributed to a successfully launched bioprospecting product may be recognized, either through direct payment, or through other intangible forms of reward.⁹² By understanding the interplay amongst competing laws and policies in an increasingly intertwined global economy, disputes such as the Indian-US turmeric patent case may be avoided.⁹³ Such an approach will help ensure the survival and influence of the new Utah Act.

Not all bioprospecting issues have been as contentious as the Indian turmeric experience, and via the CBD, a number of innovative and mutually beneficial bioprospecting agreements have been struck.⁹⁴ One nota-

86. *Id.* at 184.

87. *Id.* at 183.

88. *Contra* Vandana Shiva, *The Turmeric Patent Is Just the First Step In Stopping Biopiracy*, THIRD WORLD NETWORK, No. 86, Oct. 1997, available at <http://www.twinside.org.sg/title/tur-cn.htm>.

89. *Id.*

90. *See, e.g.*, *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234, 237-38 (1964) (Utah's attempt to make exclusive license-like contracts for bioprospecting-derived technology may be problematic, especially where the technology is not patent-eligible); *see also infra* Part IV.

91. *See, e.g.*, Peña-Neira, *supra* note 77, at 19.

92. *Id.* at 15.

93. *Cf. id.* at 20.

94. Karasov, *supra* note 3, at A584.

ble success story that carried out the goals of the CBD was a collaboration between the pharmaceutical firm Merck & Co. and the private, non-profit Instituto Nacional de Biodiversidad (INBio) in Costa Rica.⁹⁵ The agreement provided that, in exchange for access to Costa Rican habitat for commercial bioprospecting research, Merck would follow INBio-prescribed non-invasive collection methods, and provide funding for local initiatives, including conservation, educational and technology transfer projects.⁹⁶ “Merck also agreed to pay royalties to INBio for any commercial products that might result from the arrangement.”⁹⁷ The Costa Rican government’s cooperation was crucial to enact the necessary laws to effect the goals of the arrangement and ensure the realization of benefits by the local community.⁹⁸

Similar themes are found in various balanced, responsible, and forward-thinking bioprospecting agreements under the International Cooperative Biodiversity Groups Program (ICBG).⁹⁹ The goals of these U.S.-funded industry partnerships echo, in part, the CBD:

[T]o improve human health through the discovery of new pharmaceutical[s] . . . to treat diseases of importance in both developed and developing countries[,] . . . to promote scientific and economic activity in less-developed countries by sharing the benefits of drug discovery and conservation, research processes and products; and . . . to conserve [bio]diversity through the understanding and valuation of diverse biologic organisms and the development of local capacity to manage these resources.¹⁰⁰

Although some local factions expressed dismay over the patenting of a product derived from one of their staple crops,¹⁰¹ the Peruvian ICBG project addressed “all of the salient points listed above, and provide[d] for equitable benefit sharing through monetary and technological transfer as well as the retaining of local ownership through jointly owned patents on

95. *Id.*

96. *Id.*

97. *Id.*

98. *Id.* (“[T]he willingness and ability of a host country to implement bioprospecting agreements is a central factor in the success or failure of any such agreement.”).

99. Rettig, *supra* note 58, at 278.

100. Karasov, *supra* note 3, at A584-A585; *see also* INTERNATIONAL COOPERATIVE BIODIVERSITY GROUPS (ICBG), <http://www.icbg.org>.

101. *See* Sivashree Sundaram, Comment, *Battling Bills, Beans, and Biopiracy*, 15 ALB. L.J. SCI. & TECH. 545, 557, 563 (2005) (citing *Peruvian Farmers and Indigenous People Denounce Maca Patents*, ETC GROUP (July 3, 2002), <http://www.etcgroup.org/upload/publication/194/01/macafinal1.pdf>); *see also* Camila Carneiro Dias Rigolin, *North-South, Public-Private Partnerships for Biodiversity Protection: Two Cases From Peru*, at 5, 2010 CONGRESS OF THE LATIN AMERICAN STUDIES ASSOCIATION (Oct. 8, 2010), *available at* <http://lasa.international.pitt.edu/members/congress-papers/lasa2010/files/3404.pdf>.

newly discovered compounds.”¹⁰² Initially, the Peru-ICBG agreement provided for up to 75% of royalties on any commercialized products to be paid to the Peruvian people,¹⁰³ but following the patenting of an extraction method of the purported aphrodisiac maca by a U.S. company, this promise remains to be fulfilled.¹⁰⁴

Indigenous groups may also fear loss of access to their own traditional knowledge if drug companies are allowed to take out patents on it.¹⁰⁵ One highly publicized dispute in Mexico derailed an ICBG team researching traditional Mayan healer remedies.¹⁰⁶ “Such rights continue to be a major obstacle to resolving bioprospecting conflicts,”¹⁰⁷ but should not pose an immediate problem for the implementation of the new Utah Bioprospecting Act.

A non-ICBG mediated bioprospecting project in Panama was headed up by a team of scientists from the University of Utah,¹⁰⁸ one of the major lobbying forces behind the Utah Bioprospecting Act of 2010. Panama achieved multi-tiered retention of commercialization benefits while preventing overly protective and anti-competitive practices.¹⁰⁹ Panama’s policies recognize that, although a small percentage of bioprospecting research results in valuable products, meaningful and lasting benefits materialize through intelligent policy-making, including education, conservation, and recognition of the local expertise which is often key to any important discovery.¹¹⁰ Such success in highly biodiverse tropical nations can shed light on additional policy considerations for Utah to consider for amendments and rulemaking under the Bioprospecting Act. Like Panama, Utah can formulate regulations in specific ways to best suit its unique circumstances, and incentivize interested parties spanning businesses to environmental activists.

Furthermore, such successful policies incentivize preservation of biodiversity-rich lands, and legitimize the activism of the developed world by impressing upon governments and peoples of developing nations that working “to conserve [biodiversity for] . . . nondestructive industries such as bioprospecting, ecotourism and watershed protection

102. Rettig, *supra* note 58, at 278.

103. *Id.*

104. See Carneiro Dias Rigolin, *supra* note 101, at 6.

105. Karasov, *supra* note 3, at A586.

106. *Id.*

107. *Id.*

108. *A Realistic Way to Save Rain Forests*, UNIV. OF UTAH NEWS CENTER (Oct. 1, 2003), <http://www.web.utah.edu/news/releases/03/sep/medplant.html> (Surprisingly, these scientists’ experiences in Panama were not explicitly cited in the legislative history of the new Utah Act.).

109. Don Winner, *Bioprospecting Not Biopiracy*, PANAMA-GUIDE.COM (Dec. 7, 2006, 8:10 PM), <http://panama-guide.com/article.php/20061207201056808>.

110. *Id.*

provide[s] greater economic benefits than logging and ranching.”¹¹¹ The local experts understand the slow process of discovery to commercialization, and through relatively modest investments, a sustainable local industry may grow which provides jobs and a renewed sense of national pride.¹¹² Panama’s policies, for example, also eliminated uncertainties over royalties from any commercialization resulting from bioprospecting research.¹¹³ The stable partnerships and international collaborations lend certainty in this context to what have often been unsettled practices under the regimes of the UN and WIPO.¹¹⁴

Another ongoing success story is the Natural Products Unit of the University of the South Pacific in Fiji. Close collaboration with universities and scientific agencies enables advanced training, bioprospecting research, and defined intellectual property sharing arrangements of commercialized products.¹¹⁵ The University succeeded in patenting a chemical extract and entering a compound in registered clinical trials in the U.S. for the important antibiotic resistant bacterial infection indication.¹¹⁶ Other Southern Pacific nations have followed Fiji’s lead.¹¹⁷ As regional pacts, such nations may develop policies that are more customized to their socioeconomic needs, yet keep to the spirit of multinational cooperation under the auspices of WIPO and the WTO.¹¹⁸ Through “careful attention . . . to crafting solutions to problems within the context they will operate, instead of merely copying a foreign system,” they seek to formulate better-suited policies that are not “predicated upon a highly developed, literate and bureaucratic society with a strong State to administer and enforce law.”¹¹⁹ This spirit is evident in the legislative history behind the Utah Bioprospecting Act, but the state must proceed with care from a more informed perspective to ensure the ultimate success of the new statute.

C. *TRIPS Falls Short of Its Goals in Combination with the CBD*

While TRIPS seeks to standardize the scope of patent protection

111. UNIV. OF UTAH NEWS CENTER, *supra* note 108.

112. *Id.*

113. *Id.*

114. *Id.*

115. Overseas Collaboration, UNIV. OF THE SOUTH PACIFIC, INST. OF APPLIED SCIENCE, <http://www.usp.ac.fj/index.php?id=4851> (last visited Nov. 23, 2011); Drug Discovery Unit, UNIV. OF THE SOUTH PACIFIC, INST. OF APPLIED SCIENCE, <http://www.usp.ac.fj/index.php?id=2781> (last visited Nov. 23, 2011).

116. *Id.*; Maneesha Karan, *Chemical Discovery*, THE FIJI TIMES ONLINE (Aug. 14, 2009), <http://www.fijitimes.com/story.aspx?ref=archive&id=127328>.

117. See Miranda Forsyth, *Intellectual Property Laws in the South Pacific: Friend or Foe?*, 7 J. S. PAC. L. 1 (2003), available at <http://www.paclii.org/journals/fJSPL/vol07no1/8.shtml>.

118. *See id.*

119. *See id.*

over products of bioprospecting research to WTO nations, it does not directly address the CBD's core purpose of sustainable development, and thus has generated substantial controversy and conflict.¹²⁰ Nevertheless, "TRIPS is the single most authoritative international instrument on intellectual property."¹²¹ Yet, despite widespread adoption of the CBD, tensions between the developing world and industrialized nations have continued.¹²² One point of fault cited in these debates is the lack of a comprehensive intellectual property framework in the CBD.¹²³ The lack of harmonization has resulted in a widely disparate and inefficient array of interpretations by individual nations, yet has also forced intelligent debate and led to efficient multinational collaborative efforts,¹²⁴ as in the aforementioned examples.

Many in the international community criticize the U.S.'s continued influence over enforcement of TRIPS in light of its continued refusal to adopt the CBD.¹²⁵ The non-binding Bonn Guidelines of 2002 have urged CBD signatories to resolve tensions between their regimes with TRIPS by harmonizing equitable benefits sharing with private patent rights to comply with the standards of WTO membership.¹²⁶ Although not explicitly stated in the legislative history, Utah's Bioprospecting Act seeks to accomplish this via informed consent licensure and case-specific contracts. In this respect, the Utah statute resembles those aspects of the CBD that are purely economic in scope, in keeping with the spirit of the Bonn Guidelines.

The continued debate illustrates how the imposition of a universal set of intellectual property and related trade regulations required for WTO membership fails to take into account the peculiar needs and specific interests of particular nations.¹²⁷ Analogous concerns seem to undergird state lawmaking initiatives such as California's Kyoto Protocol-like emissions standards and Utah's Bioprospecting Act. Although the Utah Bioprospecting Act and California's initiative are based on very different policy rationales than developing countries' issues, they both seek to provide narrowly tailored regulatory solutions to what the two states see as important problems that remain under-addressed at the fed-

120. See Cullet & Raja, *supra* note 63, at 171-72.

121. Oguamanam, *supra* note 2, at 138.

122. See *id.* at 140 (citing Peter Drahos & John Braithwaite, *Hegemony Based on Knowledge, The Role of Intellectual Property*, 21 LAW IN CONTEXT 204, 214 (2004)); see also Tshimanga Kongolo & Folarin Shyllon, *Panorama of the Most Controversial IP Issues in Developing Countries*, 26 EUR. INTELL. PROP. REV. 258, 259 (2004).

123. Peña-Neira, *supra* note 77, at 20-21.

124. See Cullet & Raja, *supra* note 63, at 167.

125. Oguamanam, *supra* note 2, at 147 (what some call the U.S.'s "hegemony over the operation of the GKE [(global knowledge economy)]").

126. Peña-Neira, *supra* note 77, at 21.

127. Oguamanam, *supra* note 2, at 150.

eral level. In this regard, Utah appears to have unintentionally engaged in back door implementation of the CBD.

D. History and Current State of Bioprospecting Regulations in the United States

Besides not adopting the CBD,¹²⁸ the lack of comprehensive bioprospecting regulation in the U.S. has been criticized as being “even more in arrears, with virtually no program to determine either access or uses beyond that found in traditional food and drug laws.”¹²⁹ This statement is now at least partly inaccurate as a number of federal statutes and regulations exist which address bioprospecting issues, and two states have taken similar measures, albeit with limited success.

For-profit commercialization of bioprospecting research is encouraged by the U.S. government, yet the lack of uniformity amongst state and federal regulations in this sphere contributes to significant opposition.¹³⁰ Beginning with the passage of the Bayh-Dole Act of 1980,¹³¹ which enabled private researchers to maintain full ownership and licensing authority of publically-funded commercialization, tensions arose between those who believed privatization of state-funded research would lead to accelerated innovation and those concerned with the impact of intellectual property licensing and ownership rights on free knowledge sharing.¹³² Such concerns have largely dissipated since the passage of the Bayh-Dole Act, and the consensus in the U.S. is that such privatization has blossomed into a more collaborative environment that has enhanced innovation in general.¹³³

In the context of bioprospecting research commercialization, the concerns voiced after the Bayh-Dole Act have matured as the law of patentable subject matter has developed along with the underlying understanding of genetic science.¹³⁴ Unlike the scientific community, whose expertise enables commercialization of biosprospecting research, regulations operate in the more multifaceted public sphere and consider a wider

128. Emily Holding, *While the World Waits: The United States' 18-Year Saga Toward Addressing Biodiversity Loss*, SAN DIEGO NEWS ROOM (Mar. 24, 2010), http://www.sandiegonewsroom.org/news/index.php?option=com_content&view=article&id=42095:emily-holding-&catid=43:wildlife&Itemid=59.

129. Oliver A. Houck, *Environmental Law in Cuba*, 16 J. LAND USE & ENVT'L L. 1, 48 (2000), available at <http://www.law.fsu.edu/journals/landuse/vol161/houck.pdf>.

130. Meghan M. Overgaard, Note, *Balancing the Interests of Researchers and Donors in the Commercial Scientific Research Marketplace*, 74 BROOK. L. REV. 1473, 1472-74 (2009).

131. Bayh-Dole Act of 1980, Pub. L. No. 96-517, 94 Stat. 3015-28 (codified as amended at 35 U.S.C. §§ 200-212 (2000 & Supp. II 2002)).

132. Overgaard, *supra* note 130, at 1474-76.

133. *Id.* at 1477.

134. *Cf. id.* at 1479-80.

array of viewpoints in their development.¹³⁵ Patenting genes and useful natural products discovered from preexisting life forms through bioprospecting research seems unfair to many on a variety of grounds, and, as discussed above in the context of the CBD and TRIPS, regulations and the courts have not adequately addressed many of these remaining concerns.¹³⁶ The current state of affairs may be due to the prevailing view that commercialization of bioprospecting research has been validated since the Bayh-Doyle Act, and so commercialization-hindering concerns should be tabled unless absolutely necessary.¹³⁷

Hawaii commissioned an extensive study, and introduced legislation that would mimic the CBD, whose policy initiative was to promote the conservation, and responsible use of natural resources in the interest of the collective peoples of the oceanic state.¹³⁸ Even if the U.S. eventually adopted the CBD, Hawaii reasoned, that treaty's reliance on voluntary compliance would likely be insufficient to promote the asserted policy goals of the proposed law.¹³⁹ The thought process of the Hawaii Legislature echoes that which led to the UN CBD:

The Legislature is faced with the decision whether to regulate bioprospecting in Hawaii and who, including native Hawaiians, should share in the benefits. At present, it is the opinion of the Attorney General that the State does not automatically hold title to the genetic material derived from biodiversity taken from public lands. The Attorney General further opines that, at present, revenues from the sale of that genetic material do not qualify for transfer into the Ceded Lands Trust Account to be distributed by the Office of Hawaiian Affairs for the benefit of native Hawaiians. Thus, if the Legislature desires to regulate bioprospecting, it needs to ensure that the State retains title to share in benefits. It must also decide whether native Hawaiians should share in benefits, how, and how much.¹⁴⁰

Among the primary purposes behind the commissioning of the aforementioned study was to formulate responsible policies, laws, and regulations to effect the "fair and equitable sharing of benefits arising from the research, indigenous knowledge, intellectual property, or application of biological resources . . . in a way that will be environmentally sustainable, culturally sensitive, economically feasible, and mutually beneficial to all the People of the state."¹⁴¹

135. *Id.*

136. *Cf. id.*

137. *Id.* at 1480.

138. PAN, *supra* note 51.

139. *Id.*

140. *Id.* at iv.

141. H.R. Con. Res. 146 H.D. 1, 23d Leg. (Haw. 2005).

Much like the Utah Bioprospecting Act of 2010, the policy goals were to be applicable to public land “resources held in trust by the State.”¹⁴² But, the Hawaiian bill and the Utah Act differ in important ways. For Hawaii, the policy tone places more weight on fiduciary trust obligations and duties more than on assertion of sovereign control over its territory. These differences are, at least in part, due to the Hawaii state constitution’s consideration of indigenous peoples’ rights more than any other state’s.¹⁴³

On the federal level, bioprospecting regulations are in place for National Park lands. Prior to the biotechnology age, Yellowstone National Park fascinated scientists with its astounding biodiversity, with little, if any, interest in extracting and commercializing valuable products from its varied habitats.¹⁴⁴ The CRADA with Diversa¹⁴⁵ stipulates that commercialization of research discoveries from within Yellowstone shall be shared with park managers and augment other funding for park conservation.¹⁴⁶ The CRADA was challenged by environmental groups, but was upheld as a legitimate federal mandate.¹⁴⁷ The *Edmonds Institute* court also cited the Congressional intent behind related National Park System “equitable, efficient benefits-sharing arrangement[s],”¹⁴⁸ using language that unmistakably mimics core principles of the CBD. Like many of the success stories on the international stage, the Yellowstone-Diversa CRADA was praised as an intelligent and well-reasoned solution to balancing the competing interests involved and prompted additional policy-centered inquiry on the feasibility of such agreements throughout the National Parks.¹⁴⁹

There is an emerging trend whereby individual states, most notably California in the context of the Kyoto protocol, have effectively adopted the standards of un-ratified UN treaties into their own regulatory structures. In doing so, states may chart what they deem to be a better course in a race toward efficiency rather than a race to the bottom.¹⁵⁰ Like Ha-

142. *Id.*; see HAW. CONST., art. XI, § 1.

143. See, e.g., HAW. CONST., art. XVI, § 7, art. XII, § 4.

144. See generally Holly Doremus, *Nature, Knowledge and Profit: The Yellowstone Bioprospecting Controversy and the Core Purposes of America’s National Parks*, 26 *ECOLOGY* L.Q. 401 (1999), available at http://www.nationalaglawcenter.org/assets/bibarticles/doremus_nature1.pdf.

145. Diversa (now Verenum) is a U.S.-based biotechnology corporation engaged in bioprospecting research across the globe. See VERENUM, <http://www.verenum.com> (last visited Nov. 23, 2011).

146. See Bruce Gourley, *Protecting Yellowstone*, *YELLOWSTONE NET NEWSPAPER* (Apr. 24, 2000), <http://www.yellowstone.net/newspaper/2000/news042400.htm>.

147. See *Edmonds Inst. v. Babbitt*, 93 F. Supp. 2d 63 (D.C. Cir. 2000); see also *id.*

148. See *Edmonds Inst.*, 93 F. Supp. 2d at 69; see also Gourley, *supra* note 146.

149. Gourley, *supra* note 146.

150. Cf. Peter P. Swire, *The Race to Laxity, The Race to Efficiency, and the Central Role of Public Choice in Justifying Federal Minimum Standards in Environmental Law*, 14 *YALE J.*

waii's attempt, Utah appears to be following this trend with its Bioprospecting Act of 2010, whose equitable benefits-sharing and informed consent licensing regimes mimic much of the CBD.

III. RELATIONSHIPS AND POTENTIAL CONFLICTS BETWEEN THE UTAH BIOPROSPECTING ACT, PREEMPTION BY FEDERAL LAW, AND THE U.S. CONSTITUTION

The legislative history behind the Utah Bioprospecting Act of 2010 is silent on potential constitutional difficulties and preemption by federal laws. Such issues will be born out in time, but the Utah Legislature should proactively consider such relationships and potential conflicts between its new statute and various federal laws as it continues to fine-tune the new law.

State laws are subject to invalidation under the Dormant Commerce Clause if they directly regulate interstate commerce, discriminate against interstate commerce, or favor in-state over out-of-state economic interests.¹⁵¹ Such facially discriminatory statutes face strict "scrutiny of any purported legitimate local purpose and of the absence of nondiscriminatory alternatives."¹⁵² If the statute is deemed not facially discriminatory to interstate commerce, the *Pike* balancing test applies, which analyzes whether the law "regulates even-handedly to effectuate a legitimate local public interest," and only incidentally affects interstate commerce, with no clearly excessive burden on such commerce given the asserted local interest furthered.¹⁵³

The Utah Act seeks to preserve for the benefit of its citizens a portion of the tangible or intangible rewards of any commercialization of bioprospecting research on its state lands. Utah can expect that researchers may come from both within and outside the state, or from other nations. As is often the case, after the bioprospecting samples are taken from the environment, the bulk of the commercialization activities may take place outside the state. This is just one example of where potential Dormant Commerce Clause issues loom, which seem to be wholly unaddressed in the Utah Bioprospecting Act and its legislative history.

In the face of a Dormant Commerce Clause challenge on this issue, for example, Utah may assert that, but for bioprospecting access on its sovereign lands, the extraterritorial commerce activities would not be possible. The Act's licensing and contractual equitable benefits sharing provisions may themselves possibly be considered as embodying a form of interstate commerce, especially if the licensing contract specifies that

ON REG. 67, 94-104 (1996).

151. *See, e.g., Oregon Waste Sys., Inc. v. Dep't of Envtl. Quality*, 511 U.S. 93, 99 (1994).

152. *Hughes v. Oklahoma*, 441 U.S. 322, 337 (1979).

153. *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970).

a portion of the commercialization must occur in the state of Utah. Where the licensed commercializing entity is within Utah or in another state, and entities in other states are not provided a license on a similar research project, the Act may arguably be said to facially discriminate against interstate commerce. The new law is silent on whether bioprospecting licenses will be exclusive or not, which is an important consideration regarding preemption by federal patent law.¹⁵⁴

Concerns like these need to be addressed to assure the Act's success, for the regime is largely silent on such issues. Furthermore, although the Utah Bioprospecting Act has a general sweep, the legislative history makes clear that it is largely a protectionist measure intended to help Utah's academic and industry interests capitalize on fledging biotechnologies related to advancing alternative energy production. This is both a local and a national/interstate interest.¹⁵⁵ The same rationale arguably applies when considering bioprospecting research's application to medicine, food, and other areas of pervasively national import.

If Utah intends that bioprospecting licenses be exclusive to a given species or area, then the Act may also face challenges under the *Pike* balancing test since it could be said that the law does not "regulate[] evenhandedly to effectuate a legitimate local public interest," and thus has more than an incidental effect on interstate commerce.¹⁵⁶ However, the licensing scheme controls conduct on state land, much like states control campfires, logging, fishing, and archeological excavation on their lands. Thus, preemption by federal law may not be strongly implicated on the level of controlling removal of bioprospecting samples from state lands. Like ensuring sustainable local economic growth, these are "legitimate local concern[s]" that are within states' police powers to regulate, despite incidental effects on interstate commerce.¹⁵⁷ However, the Utah Bioprospecting Act's asserted control over removal of "information" about biological resources on its state lands will likely face preemption problems absent further fine-tuning of the statute.

A recent Federal Circuit decision collected and applied various U.S.

154. See *supra* note 90 and accompanying text.

155. See, e.g., Stephanie Dreyer, *Military Leaders Say Biofuels Key to Strengthening National Security*, RENEWABLEENERGYWORLD.COM (Nov. 8, 2011), <http://www.renewableenergyworld.com/rea/blog/post/2011/11/military-leaders-say-biofuels-key-to-strengthening-national-security>; Aaron Smith, *United Enters the Biofuel Age*, CNNMONEY (Nov. 7, 2011), http://money.cnn.com/2011/11/07/news/companies/airline_united_biofuel/index.htm; Alex Morales & Louise Downing, *Military Eyes Biofuels, But Wants to See Prices Drop*, KANSAS.COM (Oct. 30, 2011), <http://www.kansas.com/2011/10/30/2083166/military-eyes-biofuels-but-wants.html>; *Military Biofuel Use Takes Another Step*, WESTERNFARMPRESS (Aug. 31, 2011), <http://westernfarmpress.com/government/military-biofuel-use-takes-another-step>.

156. *Pike*, 397 U.S. at 142.

157. *Lewis v. BT Inv. Managers, Inc.*, 447 U.S. 27, 36 (1980).

Supreme Court precedents on preemption of state statutes by the federal patent laws in the context of the District of Columbia's attempt to closely regulate the price of patented prescription drugs in its territory.¹⁵⁸ In keeping with established precedent,¹⁵⁹ the court invalidated the District's Excessive Pricing Act as preempted by federal law because it was not generally applicable to all drugs, patented or not,¹⁶⁰ and upset the balance of federal patent protection.¹⁶¹

It is unquestioned that the [states] ha[ve] general police power within [their] borders and that '[w]hatever rights are secured to inventors must be enjoyed in subordination to this general authority of the State over all property within its limits.'¹⁶² But general state power must yield to specific Congressional enactment: 'any state law, however clearly within a State's acknowledged power, which interferes with or is contrary to federal law, must yield.'¹⁶³

Like the Excessive Pricing Act, the Utah Bioprospecting Act asserts the state interest of internal economic well-being, along with unstated goals of understanding, harnessing, and conserving biodiversity. Utah should elevate those latter concerns to the level of the former, like the CBD does, to address both Dormant Commerce Clause and federal preemption concerns.

Utah's asserted control over "information" derived from bioprospecting research on its state lands poses perhaps the most problematic constitutional and preemption concerns. "Information" sounds much more like intellectual property than does "access" to bioprospecting samples. The statute only vaguely defines what "information" means for purposes of the Act, stating it covers "naturally occurring microorganism's, plant's, or fungus' physical or genetic proper-

158. *Biotechnology Indus. Org. v. District of Columbia*, 496 F.3d 1362, 1366 (Fed. Cir. 2007).

159. *See, e.g.*, *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989); *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470 (1974); *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234 (1964); *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225 (1964); *see also* Christopher Lea Lockwood, *Biotechnology Industry Organization v. District of Columbia: A Preemptive Strike Against State Price Restrictions on Prescription Pharmaceuticals*, 19 ALB. L.J. SCI. & TECH. 143 (2009), available at http://www.albanylawjournal.org/articles/Lockwood_Format_DPL.pdf (synthesizing these and other important decisions, and concluding that most, if not all cases of preemption of state laws like the Excessive Pricing Act will arise out of conflict preemption).

160. *Biotechnology Indus. Org.*, 496 F.3d at 1373.

161. *Id.* at 1373-74; *Bonito Boats*, 489 U.S. at 152; *see also* Lockwood, *supra* note 159.

162. *Biotechnology Indus. Org.*, 496 F.3d at 1373 (quoting *Webber v. Virginia*, 103 U.S. 344, 348 (1880)).

163. *Id.* (citing *Felder v. Casey*, 487 U.S. 131, 138 (1988) (quoting *Free v. Bland*, 369 U.S. 663, 666 (1962))).

ties.”¹⁶⁴ States are not forbidden to regulate intellectual property,¹⁶⁵ but may do so only in “a manner not inconsistent with [f]ederal law.”¹⁶⁶ A state law preventing copying what is already in the public domain “interfere[s] with the federal policy . . . of allowing free access to copy whatever the federal patent [] laws leave in the public domain.”¹⁶⁷ This begs the question of how much, from whom, and for how long Utah may contractually reserve benefits of any commercialized bioprospecting research conducted under a license, which in turn depends partly on how such “information” shall be treated by the parties to the licensing contract, and whether the bioprospecting licenses are exclusive or nonexclusive.

Aronson v. Quick Point Pencil Co. provides some support for the licensing provisions of the Utah Bioprospecting Act in that the state may contract for a royalty-like benefits sharing arrangement prior to the patenting of the commercialized bioprospecting research, and maintain that royalty if a product materializes yet does not gain patent protection.¹⁶⁸ Should a patent issue on a product of such research, however, Utah’s reservation of royalties could not survive the patent term expiration and subsequent return of the invention to the public domain.¹⁶⁹ In the interim, the consideration for the license, apart from access to state land to sample the environment, appears to be the maintenance of trade secrecy under state law.¹⁷⁰

This scenario assumes that the “information” license is exclusive, but the “access” license may not have to be since any organism could conceivably give rise to a variety of unrelated products. Furthermore, a given organism found on Utah state lands may be found on neighboring private or federal lands, upon which a researcher could shop around for more favorable licensing terms. Thus, it seems that Utah’s Act will function as intended only in those instances where an organism is truly found only on state lands, and nowhere else. This is not inconceivable considering bioprospecting discoveries in Yellowstone and the Great Salt Lake,

164. UTAH CODE ANN. §§ 65A-14-102(1)(a)(ii) (Supp. 7A 2011); see Goldman, *supra* note 51 (noting that a literal reading of the statute would prevent one from selling a photograph taken of a plant on Utah state lands).

165. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 479 (1974).

166. *Aronson v. Quick Point Pencil Co.*, 440 U.S. 257, 262 (1979) (citing *id.*).

167. *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234, 237 (1964).

168. See *Aronson*, 440 U.S. at 263-66.

169. See *id.* (that portion of *Aronson* may not apply to reserved “intangible” benefits, however); see also Mark A. Lemley, *Beyond Preemption: The Law and Policy of Intellectual Property Licensing*, 87 CAL. L. REV. 111, 162 (1999) (“[O]nce an invention is patented, trade secret protection . . . is lost,” and if a licensor “tried to require that a licensee to continue to treat the patented invention as a trade secret, that agreement might well be invalid on federal public policy grounds.”).

170. *Kewanee*, 417 U.S. at 491 (“[T]he extension of trade secret protection to clearly patentable inventions does not conflict with the patent policy of disclosure.”).

each under the sole domain of federal and state land management authorities, respectively.¹⁷¹

Further complicating the issues discussed above are Government Records Access and Management Act disclosure requirements attendant to state regulatory affairs.¹⁷² If a company like Diversa was granted a bioprospecting license by the state of Utah, and interested parties could obtain a copy of it along with location and target species details, this could greatly jeopardize the secrecy of the “information” as required for trade secret protection. Once a competitor knew this information, it could narrow down the possible research applications and, using available technology like DNA sequencing and other screening methods, reverse engineer the trade secret.¹⁷³ Likewise, part of the benefits Utah presumably wishes to reserve are for academic research uses of bioprospecting “information,” which provide yet another risk conduit for public disclosure and destruction of trade secrecy.¹⁷⁴ Similar risks exist with export and cultivation of Utah organisms to other states or countries, where the reach of the Utah Bioprospecting Act is as questionable as proving a life form exists nowhere else but on Utah state lands.

Viewing the vague “information” provisions of the Utah Bioprospecting Act as providing intellectual property licenses may or may not be the intent of the statute, but could attract bioprospecting researchers to the state to obtain “technological protection without having to meet any of the substantive requirements of intellectual property law, simply by contracting for it.”¹⁷⁵ Not only should the language of the Act be made more concrete in this respect, Utah lawmakers should also consider the many possible negative externalities¹⁷⁶ of entering into and enforcing such contracts. This is especially so given the difficulty and costs associated with enforcing the Act on such large expanses of wild lands. With proper attention to statutory revision and rulemaking, however, these problems can be overcome to assure the future success of Act.

171. Great Salt Lake Planning – 2010, Sovereign Lands at the Great Salt Lake, UTAH DIV. OF FORESTRY, FIRE & STATE LANDS, <http://forestry.utah.gov/sovlands/gsl.php> (last visited Nov. 23, 2011).

172. UTAH CODE ANN. § 63G-2-101 *et seq.* (2010), available at <http://le.utah.gov/~code/TITLE63G/63G02.htm>.

173. *Contra* Dan L. Burk, *Misappropriation of Trade Secrets in Biotechnology Licensing*, 4 ALB. L.J. SCI. & TECH. 121, 148 (1994), available at http://www.nationalaglawcenter.org/assets/bibarticles/burk_misappropriation.pdf (“[T]he trial and error nature of biotechnology may lend itself to satisfying important factors in the [trade secret] subject matter evaluation.”).

174. *Id.* at 149-50.

175. Lemley, *supra* note 169, at 150.

176. *See, e.g., id.* at 149.

IV. KEYS TO SUCCESS FOR THE UTAH BIOPROSPECTING ACT

The financial rationales of the CBD and the failed Hawaii statute are diminished in importance in light of additional goals such as environmental conservation and human rights. While those rationales have been extensively studied and borne out in international policies and treaties such as the CBD and TRIPS, their relevance to bioprospecting within the U.S. is much less clear. Concerns over benefits sharing and informed consent of indigenous peoples are highly relevant in a state like Hawaii, with a pervasive presence of such cultures, but it is much less clear how such concerns apply to the U.S. as a whole. However, states facing increasing budgetary crises may well seek to reap financial rewards from bioprospecting research. Financial considerations thus appear to be Utah's main motivating factor behind passing this new statute aimed at regulating bioprospecting activities on state lands.

Utah's new law resembles the failed Hawaiian proposal in many ways, but given that Utah is mainly a desert state with comparatively little biodiversity, the new measure seems misplaced. The Yellowstone-Diversa CRADA was even more reactionary than the Utah Bioprospecting Act of 2010. Prior to those federal measures, a foreign biotechnology corporation discovered in the National Park's hot springs a bacterial enzyme that led to the polymerase chain reaction (PCR) technology now pervasive in the biomedical industry.¹⁷⁷ Pre-commercialization benefits sharing agreements and related regulations may have benefited the federal government, and perhaps Wyoming, in ways such as those sought by Hawaii in their failed 2004 legislation. The financial rationale behind bioprospecting regulation in U.S. states appears to be a response to such concerns, and appears to act as a protectionist measure against corporations, particularly foreign interests, pilfering public lands in a manner which, although initially innocent and non-intrusive, result in potentially windfall profits without any corresponding stimulus of local domestic economies.

Utah is home to many hot springs, and similarly extreme environments. By enacting such protectionist regulations upon bioprospecting, the new law creates an abundance of tensions with commercial interests, and illustrates the perceived desire of states to assert sovereignty over their lands and whatever valuable genetic secrets they hold. Utah's Act exemplifies a recognition that states should be enriched in some way, just like corporations who often come from far afield to only transiently benefit local economies, and thereafter patent, sell, and profit on what was, in effect, given to them by the state where the enabling discovery was

177. E.g., *'Extremophiles' Prove Their Worth*, WIRED.COM (June 25, 2004), <http://www.wired.com/medtech/health/news/2004/06/63993>.

made. Studies of these tensions on the international stage shed light on such concerns of U.S. states, but additional unique issues come into play which have received scant attention by other than a few scholars, and by those interests, like the UTC, who pushed for the passage of the Utah Bioprospecting Act.

This “porous jurisprudence of gene patents” encourages researchers to “patent-first-ask-questions-later,” a practice they believe advantageous to commercialization under a first to market rationale.¹⁷⁸ The lack of consideration to broader policy issues by researchers and regulators in this race to the bottom is illustrated by the state of affairs in bioprospecting, and may contribute to a net loss in efficiency to the commercialization of science.¹⁷⁹ Citing old arguments with renewed vigor, critics call for more balanced regulatory approaches to account for the new “global knowledge economic order” in which bioprospecting, and biotechnology in general, operate.¹⁸⁰ Such globalization calls for a more sustainable and multi-disciplinary approach to intellectual property regulations that integrate as many stakeholders as possible.¹⁸¹

Humans have always engaged in bioprospecting, but, as global populations rise exponentially, managing these resources responsibly and sustainably has become increasingly difficult.¹⁸² There will always be competing interests, with the need to incentivize research activities that yield important commercial products balanced with the need to preserve and protect other aspects of the environment.¹⁸³ While other nations have addressed such concerns to their respective benefit, the U.S. still grapples with these debates, and has largely avoided intelligent and engaged analysis of these important concerns within its own borders.¹⁸⁴ Yellowstone has become a policy laboratory in this regard, and its managers now realize that such resources “hold benefits for humanity beyond recreation [and] aesthetics, and . . . should be shared [with] the private sector to explore and develop [], while maintaining the parks’ integrity, [to] assure[] the greatest good for the greatest number.”¹⁸⁵ In this regard, Utah’s Bioprospecting Act of 2010 follows in the footsteps of the Yellowstone-Diversa CRADA and the subsequent federal lawmaking, but the state has

178. Oguamanam, *supra* note 2, at 145-46.

179. *Id.* at 146.

180. *Id.* at 104.

181. *Id.* (“The pivotal role of intellectual property in the GKE presents intellectual property as an increasingly multidisciplinary subject with complex issue linkages in virtually all fronts including public health, human rights, biodiversity, biotechnology, biopiracy, the environment, ethics, culture, indigenous knowledge, electronic commerce, and research ethos.”).

182. John C. Downen, *Bioprospecting in Yellowstone*, BOZEMAN DAILY CHRONICLE, July 31, 2002, available at <http://www.free-eco.org/articleDisplay.php?id=96>.

183. *Id.*

184. *Id.*

185. *Id.*

a unique opportunity to formulate its regulations in a way that is more narrowly tailored to its particular needs.

A more unified policy formula, encompassing relevant national and international law, and related experiences thus far since CBD, TRIPS, and the National Park legislation and rulemaking, will ensure the future effectiveness of the Utah Bioprospecting Act. Most important is education and public affairs within the state, nationally, and internationally. The resulting goodwill and informed debate will make it far more likely for Utah to achieve the policy goals behind the statute, and also for the Act to become highly influential on the federal, state and world stages.

CONCLUSION

The U.S. was instrumental in bringing about the CBD, participating in the six-year drafting phase, but is now one of only two countries that have not ratified it, the other being Andorra.¹⁸⁶ Ironically, the CBD was even modeled after conservation laws in the U.S.¹⁸⁷ By not ratifying the Convention, the U.S. weakens its ability to affect global conservation and sustainability,¹⁸⁸ thus risking the storehouses of biological resources that serve as raw materials for many of the most successful pharmaceutical and other biotechnology products. Analogous state lawmaking such as the Utah Bioprospecting Act may accelerate the process of CBD ratification, but such a desirable result is ultimately dependent on the success of the Act.

Utah, like all U.S. states in the federalist system of government, must consider its own unique socioeconomic circumstances when formulating such laws. For Hawaii, respect for indigenous people's rights to traditional knowledge was mandated by that state's constitution. For Utah, the continued success of its growing biotechnology industry was a primary driver. Simultaneously, states enacting bioprospecting regulations must not exert overly-protective measures that may hinder their own, or neighboring states', economic well being, or restrict free trade in contravention of WTO requirements. Like the international experience played out through the CBD and TRIPS framework, states like Utah should expect bioprospecting-related disputes in a variety of public and private contexts. They should view such conflicts as further opportunities to incorporate the many lessons to be drawn from bioprospecting-related issues in both national and international fora.

The Utah Bioprospecting Act of 2010 should be a success and be very influential in time. To assure such success, the state must leverage

186. Holding, *supra* note 128.

187. *Id.*

188. *Id.*

best-practices in management and enforcement, as through advances in geospatial technology,¹⁸⁹ and by continued gene sequencing and cataloging of unique life forms within its borders.¹⁹⁰ By taking a simple and straightforward tack, the Utah legislature draws appropriate initial lessons for the statute in its current form, but the state needs to continue to study related issues on a national and international level, and consider downstream consequences that may tend to work the opposite of the Act's asserted policy goals.

Given Utah's relative economic health,¹⁹¹ and thriving biotech industry in particular,¹⁹² it is likely that this statute, and subsequent commentary and study, will provide a model for other states' initiatives, and perhaps the federal government's continued deliberation toward adopting the CBD. Drumming up such interest from the federal government holds promise for reform of the TRIPS regime, in addition to the CBD, given the U.S.'s influence in the WTO. Utah's new bioprospecting statute is truly revolutionary, but only time will tell if its pioneering status will be contagious on the national and international stages.

189. See, e.g., Robert P. Guralnick et al., *Towards a Collaborative, Global Infrastructure for Biodiversity Assessment*, ECOLOGY LETTERS, June 10, 2007, at 663-72, available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2040220/>.

190. Cf. *India Partners with US and UK to Protect Its Traditional Knowledge and Prevent Bio-Piracy*, PRESS INFO. BUR., GOV'T OF INDIA (Apr. 28, 2010), <http://pib.nic.in/release/release.asp?relid=61122>; Traditional Knowledge Digital Library, GOV'T OF INDIA, <http://www.tkdil.res.in/tkdil/langdefault/common/> (last visited Nov. 23, 2011) (following the resolution of the Indian-US Patent dispute, India created an expansive traditional knowledge database that is now cited by numerous international patent authorities, including the U.S. Patent & Trademark Office).

191. Tony Dokoupil, *Promised Land: How Utah Became an Economic Zion*, NEWSWEEK, Nov. 15, 2010, at 33, available at <http://www.newsweek.com/2010/11/08/how-utah-became-an-economic-zion.html>.

192. EdcUTAH, *supra* note 32.