Response Paper 2 — Ali Alkhatib

Software has more power than law to shape the use of digital media.

Introduction

In 1996, John Perry Barlow published ‘‘A Declaration of the Independence of Cyberspace”, drawing a line between what he described as two worlds: one, predicated on property, identity, and context; and the other, predicated on ethics, thoughts, and egalitarianism [2]. Barlow’s missive reflects a cultural sense deeply ingrained in cyber culture — both then and now — that people on the Internet are free from the shackles of offline social, legal, and cultural institutions. Indeed, his claim has resonated on the Internet, but it remains relatively untested; are the patterns of use of digital media shaped primarily by software as Barlow seems to suggest, or are they in fact primarily influenced by laws like the ones from which he so emphatically attempts to distance himself?

In this paper, I argue that the roles of software and legal institutions in shaping the use of digital media are more nuanced than a simple ranking of one over the other. I will attempt to show that software potently articulates potential uses of digital media; the law, in turn, outlines the constraints on how people may use digital media. While these forces appear inherently to compete with one another, I will posit that the bottom--up influence of software and the top--down influence of law help provide important guidance in shaping the ways people adopt and use digital media.

To substantiate this thesis, we will look to three points: 1) We will consider a handful of cases illustrating the enabling potential of software systems, including digitally--enabled work and the emergence of ‘‘big data” as a way of approaching previously overwhelming problems; 2) we will look to legal cases demonstrating the state’s ability to restrict behavior on these systems, such as the application of existing and new laws to enforce laws prohibiting stalking, harassment, and abuse; 3) finally, we will attempt to reconcile these opposing forces with an analytic framework.

The empowering force of software

Digitally--enabled labor markets, in particular those articulating ‘‘crowdsourcing” as described by Jeff Howe and others [5, 17], have enabled such radical change in the formulations of labor that one might think it calls for Dalton’s comparisons of primitive economies and market industrialism, which he points out are ‘‘different... not in degree but in kind” [9]. In other words, ‘‘crowdsourcing” — at least as Brabham and Howe define it — is not just the scaling of work in one dimension, but changing the axis of work itself. Brabham attempts to distance crowdsourcing from conventional labor — and even from other digitally–enabled labor such as ‘‘production of the commons” (e.g. Wikipedia) — though deeper consideration of Riis’s turn–of–the–century exposition on piecework suggests important parallels [5, 28].

Nevertheless, the changes to labor seem more reminiscent of a ‘‘great transformation”, on a scale of which Polanyi had written decades prior [27]. In fact, through this lens, an argument can be made that some form of substantive transformation — the commoditization of labor as discrete, modular pieces and the emergence of jobs rather than the notion of a ‘‘career” as such — is taking place after what might be regarded as a ‘‘false start” documented by Riis and later fought by early labor unions [10, 28].

We can think about the emergence of piecework, at the turn of the twentieth century and then again in the last decade, as the introduction of systems — social in the first case, but predicated on software in the contemporary case. Both advocate, in a bottom--up fashion, unconventional paradigms of work. In the first case, the number of worker--advocacy groups in the United States skyrocketed between the late nineteenth and early twentieth centuries (until reaching what Hannan and Freemon hypothesized was a ‘‘carrying capacity” of labor unions) and pressure from these unions pressed legal institutions to formalize many of the protections for which many of these organizations had originally fought [16].

Systems make it possible for workers to communicate, rally, and coordinate to improve their circumstances

[18, 30, 22]. We see that software allows people to communicate and coordinate in ways that were previously unheard--of and otherwise considered impossible [31, 26, 8].

The enabling influence of software is not limited to labor markets. In *Numbersense*, Fung (2013) makes an argument for the potential to use massive amounts of data — about the self and the other — to make crucial insights informing decisions [13]. His perspective and optimism is not unique; Mayer-Schönberger & Cukier (2013) describe countless uses of ‘‘Big Data” to inform and improve the lives of those who participate in the collection of data at scale [25]. While Lanier (2014) claims that ‘‘no one in science thinks of big data as a . . . silver bullet” [21], the overwhelming narrative among scientists suggests an attempt to find almost god--like applications of ‘‘big data” [6, 23, 32, 3]. Indeed, data is widely regarded as capable of solving any problem, limited only by the talent of those who wield it[1].

I argue that this is an inherent affordance of software, to empower and enable those with access to these systems and tools to behave in new ways, and that software has a potentially significant role in influencing people's use of digital media.

The constraining influence of law

While legal systems don't yet adequately protect workers in contemporary piecework markets, colloquially known as the ‘‘gig economy”, recent events suggest that their institutions are beginning to act to formalize protections determined to be necessary by workers in these new markets [11, 14]. Further paralleling the historical example, the argument has been made that more rigorous government involvement is necessary to protect workers by articulating limits on how people may use digital media in the context of crowdsourcing and this mode of labor [15]. This line of advocacy fundamentally assumes that the role of law is to rein in potentially dangerous forces, such as digitally--enabled labor markets predicated on software.

It should also come as little surprise that laws have emerged outlining reasonable uses of data and limiting how data can be used to harm users. As Zittrain (2008) points out, privacy policies and content licenses — legally binding terms describing the relationships between parties of various natures — establish limits on the behavior of all parties involved [33]. It is worth noting that these limitations thus constitute guarantees upon which others can rely, which Zittrain argues is an important feature of the Internet, especially well–illustrated in his discussion of Net Neutrality.

Lanier (2014) and Bowker (2000) take a critical stance of the empowering nature of personal data at scale, but these critiques crystallize the *geist* of the sense of empowerment that is widely felt in software. Lanier's assumption appears to be that this is the default role of laws — to outline how people can behave (in this case in the context of using digital media) by drawing boundaries beyond which represent social and legal transgressions — and that the nature of any debate regarding legislative intervention is fundamentally about whether it should draw an otherwise artificial boundary on people's behavior with regard to digital media.

Privacy is but one narrow facet exposing law's influence of the use of digital media. Laws regarding behavior on the Internet expose the attempts to limit the ways people use digital media, as Citron (2014) and Anderson (2013) show. Technology and software affords people the ability to run a website or service over the Internet; Anderson (2013) describes the awkward attempts of ‘‘offline police” to become ‘‘Internet police” as they attempt to follow spammers, child pornographers, and drug dealers online; in particular, Anderson points to the applications of offline laws which codify the limitations on acceptable behavior online [1].

Citron presents a more focused persuasive case that the law should — and increasingly does — outline limits on the behavior that occurs on websites and through online systems; transgressions such as cyber stalking and ‘‘revenge porn” [7]. While, as Citron points out in his examples of cyber harassment, there is ample

[1] Big data is not universally perceived as a cure for all problems; Bowker (2000) takes a critical look at the limitations of categorization and the quantification, measurement, and logging of everything that the aforementioned research advocates, and how this over--reliance may problematize our understanding of the world [4].

need and motivation to revise and update laws, it's hard to downplay the role of law in shaping peoples' use of digital media. Moreover, here we see again that the primary force defining the boundaries on people's behavior stems not from the affordances and influences of software, but the directives of law.

Law further shapes the use of digital media in increasingly challenging ways. Mayer-Schönberger points out that ''policy makers are compelling ... data collectors to perfect the digital memory of all of us" [24], but this isn't the whole story; the ''right to be forgotten" articulated by the European Union illustrates a seemingly conflicting force, prompting legal scholars to attempt to reconcile the push to exploit the affordances of software systems while concurrently addressing ''an urgent problem in the digital age" [29]. Even in cases as contradictory as this one, it's clear that law carries with it an inherent power to limit and bound behavior — in this case, the behavior of system–designers — thus overwhelmingly shaping the use of digital media.

Reconciling conflicting powers

This imposing power of governments and laws may be conceptually related to ''bio--power", a term which Foucault uses to reference to how ''the human species became the object of a political strategy" [12]. I suggest that the power laws employ, to threaten to restrict human bodies, describes the paradigm on which all laws operate — and that this paradigm is fundamentally the reason that laws curtail and limit.

Foucault's insight arguably emerges when we look critically at the myriad censorship tools employed in China in the forms of ''The Great Firewall", preventing access to certain sites and services, and the hundreds of thousands of censors who tirelessly flag and remove content deemed inappropriate. King, Pan, & Roberts (2013) illustrate this confluence of law and software, and how the Chinese government effectively ''clips" the social ties of collective action efforts to stifle organizers' efforts [20]. By tightly constraining the enabling force of software systems, and invoking the ethos of the police and law through references to ''Chacha" — the Internet police, China expertly shapes its citizens' use of digital media [19].

Conclusion

We've explored the ways that software and law influence and shape the use of digital media, coming away with a complex and conflicted understanding of the relationship that these two forces have with one another. We saw that software and digital systems have the power to enable behavior of various qualities — both to empower and to disenfranchise people. We also dove into myriad ways that laws curtail and limit behavior and the use of digital media — again to empower and, sometimes, to disenfranchise people. From these cases, we can reasonably conclude that software, ''cyberspace", the embodied world, and law are far more entangled and interrelated than Barlow (1996) would have liked to admit in his ''declaration of independence".

It may be tempting to ascribe greater value to law or software over the other as we weigh the potency of these forces to influence digital media use, but this would be a mistake. I would argue that it would be more accurate to say that both factors must interact, and that the ways in which people use digital media are enabled and determined by software and constrained by laws.

word count: 1836

References

[1] ANDERSON, N. *The Internet Police: How Crime Went Online, and the Cops Followed*. W. W. Norton, 2013.

[2] BARLOW, J. P. A declaration of the independence of cyberspace, February 1996.

[3] BELL, C. G., AND GEMMELL, J. *Total recall: How the e-memory revolution will change everything*. Dutton, 2009.

[4] BOWKER, G. C., AND STAR, S. L. *Sorting things out: Classification and its consequences*. MIT press, 2000.

[5] BRABHAM, D. C. *Crowdsourcing*. Mit Press, 2013.

[6] CARREL, A., EKAMBARAM, V., GAKER, D., SENGUPTA, R., AND WALKER, J. L. The quantified traveler: Changing transport behavior with personalized travel data feedback, 2012.

[7] CITRON, D. K. *Hate crimes in cyberspace*. Harvard University Press, 2014.

[8] COSTANZA-CHOCK, S., AND CASTELLS, M. *Out of the Shadows, Into the Streets!: Transmedia Organizing and the Immigrant Rights Movement*. MIT Press, 2014.

[9] DALTON, G. Economic theory and primitive society. *American Anthropologist* (1961), 1--25.

[10] EBBINGHAUS, B., AND VISSER, J. When institutions matter: Union growth and decline in western europe, 1950--1995. *European Sociological Review 15*, 2 (1999), 135--158.

[11] FARIVAR, C. Watch out sharing economy, the feds are watching this whole contractor thing, July 2015.

[12] FOUCAULT, M., SENELLART, M., BURCHELL, G., EWALD, F., AND FONTANA, A. *Security, Territory, Population: Lectures at the Collège de France 1977--1978*, vol. 4. Macmillan, 2009.

[13] FUNG, K. *Numbersense: How to Use Big Data to Your Advantage*. McGraw-Hill Education, 2013.

[14] GEUSS, M. Uber drivers are employees, california labor commission ruling suggests, June 2015.

[15] GRAY, M. Fixing the chaotic crowdworker economy, August 2015.

[16] HANNAN, M. T., AND FREEMAN, J. The ecology of organizational founding: American labor unions, 1836-1985. *American Journal of Sociology* (1987), 910--943.

[17] HOWE, J. *Crowdsourcing: How the power of the crowd is driving the future of business*. Random House, 2008.

[18] IRANI, L. C., AND SILBERMAN, M. S. Turkopticon: Interrupting worker invisibility in amazon mechanical turk. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2013), CHI '13, ACM, pp. 611--620.

[19] KING, G., PAN, J., AND ROBERTS, M. E. How censorship in china allows government criticism but silences collective expression. *American Political Science Review 107*, 02 (2013), 326--343.

[20] KING, G., PAN, J., AND ROBERTS, M. E. Reverse-engineering censorship in china: Randomized experimentation and participant observation. *Science 345*, 6199 (2014), 1251722.

[21] LANIER, J. *Who owns the future?* Simon and Schuster, 2014.

[22] LEE, M. K., KUSBIT, D., METSKY, E., AND DABBISH, L. Working with machines: The impact of algorithmic and data-driven management on human workers. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (New York, NY, USA, 2015), CHI '15, ACM, pp. 1603--1612.

[23] LI, I., DEY, A. K., AND FORLIZZI, J. Understanding my data, myself: supporting self-reflection with ubicomp technologies. In *Proceedings of the 13th international conference on Ubiquitous computing* (2011), ACM, pp. 405--414.

[24] MAYER-SCHÖNBERGER, V. *Delete: the virtue of forgetting in the digital age*. Princeton University Press, 2011.

[25] MAYER-SCHÖNBERGER, V., AND CUKIER, K. *Big data: A revolution that will transform how we live, work, and think*. Houghton Mifflin Harcourt, 2013.

[26] MILLER, V. *Understanding digital culture*. Sage Publications, 2011.

[27] POLANYI, K. *The great transformation: The political and economic origins of our time*. Beacon Press, 1944.

[28] RIIS, J. A. *How the other half lives: Studies among the tenements of New York*. Barnes & Noble Publishing, 2004.

[29] ROSEN, J. The right to be forgotten. *Stanford law review online 64* (2012), 88.

[30] SALEHI, N., IRANI, L. C., BERNSTEIN, M. S., ALKHATIB, A., OGBE, E., MILLAND, K., AND CLICKHAPPIER. We are dynamo: Overcoming stalling and friction in collective action for crowd workers. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (New York, NY, USA, 2015), CHI '15, ACM, pp. 1621--1630.

[31] SHIRKY, C. *Here comes everybody: The power of organizing without organizations*. Penguin, 2008.

[32] WOLF, G. The data-driven life. *The New York Times 28* (2010), 2010.

[33] ZITTRAIN, J. *The future of the internet--and how to stop it*. Yale University Press, 2008.