How the Origins and Development of ‘Online Technologies’ have Influenced the Legal Understanding of Social Media

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In working towards a legal definition of social media, it is necessary to have an understanding of its origins and determine forces that have, and continue to propel its predominance throughout the globe. Considering the origins and the evolutionary processes in the creation of social media’s rise to prominence is therefore fundamental when considering the impact of regulation for it is arguable that only when one understands the nature and function that social media serves within society can one gain an understanding of the impact that regulation may have.
The origins of social media can be traced back to a number of specific influences throughout time and place. To be completely accurate regarding the first instance when social media came about, then consideration should be given to the fact that social media could date as far back to when human beings started to use written means of communication.[1] If a broad definition of social media was to be adopted, then it is possible to assert that social media is as old as when humans first started to form social groups and began to communicate using range of written media.[2] Under such a broad definition, it could even be suggested that various types of cave paintings or rock art could be seen as a form of social media relevant to that time and place.

As insightful and interesting as this may be for defining social media, this discussion will limit the investigation into the origins of social media in its electronic form, primarily on events post World War II, with particular emphasis from the mid-1980s onwards. The reasons for this is due to the fact that it was from these periods where the acceleration of social media into its current form has occurred. The decades from the 1980s represent the most accelerated and therefore significant time in history for observing the development of social media.

It is by no coincidence that this period represents the development of the internet and any discussion of the rise of social media should also be accompanied with a discussion that acknowledges the fact that social media’s prominence is due mostly, to its ability to spread through the use of the internet and its associated technologies. It is reasonable to assert therefore, that social media is a product of

the internet and has developed as a divergent internet technology. How and why social media developed in this fashion will be discussed further in the ensuing sections of this chapter.

Firstly, it is necessary to outline some background on the creation and diffusion of the internet by examining how and why this phenomenon achieved the meteoric rise it has done.

The Internet

Internet technologies have contributed to the overall diffusion of social media through the use of telecommunication networks.[3] Such networks are not new and we can see the emergence of communication networks with a range of media throughout history, such as the telegraph and telephone[4] which also relied upon similar principles of networking theory in terms of its diffusion over time and place, as does the internet.[5] In 2005, the internet was described by Kapur as, a global, distributed system of hundreds of thousands, if not millions, of independently operated and interconnected computer communication networks. All of these networks use a standard set of protocols, sometimes referred to as the TCP/IP protocol suite. TCP and IP are the core protocols of the Internet and had their origins in research sponsored by the US Defense Advanced Research Agency in 1973. It is a system that, by design, is relatively insensitive to national boundaries.[6]

This description by Kapur would, on the face of it, seem accurate since there appears little argument that the internet had its origins as part of the US military, is used by tens of millions of people every day, relies on pre-agreed infrastructure protocols and surpasses national jurisdictions. None of this is contentious and this definition would appear straightforward enough. What Kapur fails to include, however, are the inequalities in the distribution of the internet across the developed and developing worlds[7] and the myriad of harms that are attributable to the use of internet technology.[8] Kapur's definition thinly alluded to the extent and ways that the internet has permeated the daily lives of those who have access to this technology.[9]

Historical Development of the Internet

Evidence suggests that the creation of the internet was enabled primarily due to military requirements as a means for military personnel to communicate in

wartime.[10] Of particular relevance was the US Department of Defence's Advanced Research Projects Agency (ARPA) which was assigned the role of researching computer applications for the US military.[11] It needs to be stated however, that the emphasis was on information sharing as opposed to attack capabilities at the time, as argued by Kleinrock.[12] Kleinrock, one of the early internet pioneers of the 1960s, asserts the leading reason for the development of this technology was due to the ability to share complex and varied information across a range of geographical locations.[13] The technology underpinning the ARPANET, as it later became, involved the use of packet-switching communication.[14] This technology involved the use digital information being sent from one computer to the other.[15]

As Winston points out, the means by which the internet came about was due to the creation of computer hardware and 'machine code-compilers' or 'languages' as a means to communicate through telecommunication networks.[16] Slevin argues that what precipitated this technology must be seen in terms of the socio-cultural context at the time, which was characterised by the Cold War.[17] It was with this backdrop of heightened geo-political tensions of the 1950s and 60s that created the ideal environment for the funding research and development of this technology.[18]

It is certainly suggested that the events proceeding World War II, led to the development of information theory in the 1940s emerging as a way to enable a range of military applications due to the sequencing of data. In order to overcome technological problems, further developments at Bell Laboratories ensued with the creation of efficient telephone systems, which had a direct influence on the way internet technology could operate.[19] By the 1960s further developments had taken place by a number of leading corporations that were being driven by their own commercial goals with the internet being created.[20]

Much of what was occurring at the time between individual players was happening in isolation and rather than a coherent system that developed in a linear, coordinated progression, the internet seems to have developed in an *ad hoc* fashion primarily from a series of conflicts between a large number of groups and individuals.[21] As Abbate suggests,

> the internet was intended to allow scientists to overcome the difficulties of running computer programs on remote computers. The current commercially run, communication-oriented internet emerged only after a long process of technical, organizational, and political restructuring.[22]

While there has been much written on the origins of the internet, particularly from technological and critical cultural perspectives,[23] it is worth noting that the internet was primarily formed with the objective of sharing of information as Abbate highlights. It is the sharing of information that is at the essence of social media and is therefore of critical importance when considering how social media has risen to the level of prolific use that it has over recent decades. A necessary component for sharing information was the need for creating networks. Abbate argues, the reasons why the internet was able to achieve rapid growth in such a short period was due to the ability to create a number of varied networks.[24] These networks first started within the realms of military related ventures but later moved to research academics then finally to civilians as a means for entertainment, rather than work-related purposes.[25] Networks were created within a wide range of fields, initially for the dispersion of data and computer programs, but there were others who saw the internet represented opportunities to take advantage of human-to-human communication.[26]

The emergence of the internet clearly highlights the importance of networks in this process. A key feature to the success of the internet may be related to its 'open-ended' nature and its flexibility in the use of multi-access points throughout networks.[27] This idea was espoused by J C R Licklider and David W Taylor, two key figures in espousing the advancement of computer technology as means of communication in the 1960s.

Licklider and Taylor, in their seminal work, *The Computer as a Communication Device*, predicted with remarkable precision what the power of the internet in decades to come would mean for hundreds of millions of users. The authors argue that computers in an 'online'[28]environment have the potential to 'revolutionize communication' through the sharing of complex information through a variety of networks in ways that can never be achieved by face-to-face communication.[29] Licklider and Taylor State,

> Emphatically we do *not* say: "Buy a computer and your communication problems will be solved." What we do say is that we, together with many colleagues who have had the experience of working on-line and interactively with computers, have already sensed more responsiveness and facilitation and "power" than we had hoped for, considering the inappropriateness of present machines and the primitiveness of their software. Many of us are therefore confident (some of us to the point of

> religious zeal) that truly significant achievements, which will markedly improve our effectiveness in communication, now are on the horizon.[30]

The authors go on to State that what is required is the formulation of online, interactive communities, not of 'common location' but of 'common interests' that will eventually support 'every informational transaction' in 'each geographical sector'.[31] What is interesting about this assessment, is the subjugation of the need for communication to occur within a 'common location'. With the advent of online technologies participants are able to focus on 'common interests' without the burden of mutually shared locations. This is significant since prior to the creation of the internet, effective communication relied very much on the physical location of participants. This meant that for those with like interests or sharing some commonality arising from work or play, communication would need to involve one or more of the modes that were present at the time, such as being in physical company, letters, faxes or the telephone. Such modes would have had varying degrees of limitations.

With the advent of the internet, participants were able to overcome a range of limitations in communication that existed at the time and this is perhaps what Licklider and Taylor were referring to when they referred to the idea that online technology brought with it, 'power'. Based on their predictions, it would be reasonable to assert that Licklider and many of his associates from the early pioneering days of the 1960s would not have been surprised by the rapid adoption of the diverse range of applications that sprang from the internet.

For many, the newly accessible internet was seen as a medium for enabling the individual to freely express him or herself to a mass audience on a range of issues in a range of forums that were up until this point, limited to radio, print and television.[32] The model that existed up until the existence of the internet meant that only those given a voice by the traditional media were able to express their views to a mass audience. Problems for this model existed of course within authoritarian regimes as the means of mass communication was controlled by the State.[33] One of the benefits of the internet was that participants were no longer listeners, but 'speakers … in the mass mediated environment.[34] Benkler argues that a key feature to this was the financial costs involved in participating in electronic media.[35] The low start-up costs to participation greatly assisted indviduals to set up web sites and engage in conversations with a large base.[36] Benkler argues further that the 'emergence of the networked information economy has the potential

to increase individual autonomy … [by] increasing the range and diversity of things that individuals can do for and by themselves'.[37] The benefits of the internet were seen as 'emancipatory' on the basis that it enabled activists and groups to participate in different ways regarding a range of topics.[38] A number of commentators supported this proposition and shortly after groups of self-proclaimed 'cyber activists' began to emerge. Of particular interest was John Perry Barlow and his 1996 *Declaration of Independence of Cyberspace*.[39] In the Declaration, Barlow begins by stating,

Governments of the Industrial World, you weary giants of flesh and steel, Icome from Cyberspace, the new home of Mind. On behalf of the future, I askyou of the past to leave us alone. You are not welcome among us. You haveno sovereignty where we gather.[40]

Barlow appears to be challenging what he believes to be the hegemony of the governments of the industrial world, and that of the newly constructed people of 'cyberspace'. Barlow presents himself as someone speaking 'on behalf of the future' and in doing so modelled the Declaration closely to that of the United State Declaration of Independence of 1776.[41] The Declaration purported to espouse basic tenets of democracy and libertarian beliefs – a cornerstone of modern, Western political thought.[42]

Barlow was not alone as various commentators in the 1990s were as supportive of the internet as their counterparts from decades earlier regarding the idea that the internet and computer mediated communication provided ways to strengthen democracy through an expanded citizenship in cyberspace.[43] Arguments were put forward that the internet and CMCs in general, supported non-hierarchical organisational structures and therefore allowed greater participation of citizen movements throughout the developed and developing worlds.[44]

However, while there were many proponents of the internet espousing what it could do for the benefit of mankind, there also appeared those who were more sceptical of what the internet could achieve.[45] It was evident to these people that the benefits of the internet, such as providing greater equality, living standards and empowerment did not live up to expectations and rather than benefit society, it has actually exacerbated many of the systemic problems throughout the globe.[46] I will discuss later the specific claims regarding the benefits that were made about the internet in the context of social media in order to determine whether such claims are justified on the basis of existing evidence. It is important to determine the veracity of

such claims since any regulation of social media might negatively impact the purported benefits that stem from the use of social media.

Criticism has also been levelled at the internet in terms of its governance structures since it is arguable that the internet is largely ungovernable[47] and is therefore out of the realms of State control.

[1] See generally David J Crowley and Paul Heyer, *Communication in History: Technology, Culture, Society* (Allyn and Bacon, 2007).
[2] Ibid.
[3] Brian Winston, *Media Technology and Society: A History from the Telegraph to the Internet*(Routledge, 1998) 321.
[4] Ibid.
[5] Nicholas Gane and David Beer, *Key Concepts: New Media* (Berg Publishers, 2008)above n 1, 15–33, 87-102.
[6] Akash Kapur, *Internet Governance: A Primer* (Elsevier/ UNDP, 2005) (forward).
[7] Kieron O'Hara and David Stevens, *Inequality.com: Power, Poverty and the Digital Divide*(Oneworld Publications, 2006) 119-52.
[8] Example, see Simon Bronitt and Miriam Gani, 'Shifting Boundaries of Cybercrime: From Computer Hacking to Cyber-Terrorism' (2003) 27(6) *Criminal Law Journal* 303; Honorable M J Brady, 'Syposium: Prosecution Responses to Internet Victimization' (2007) 76*Mississippi Law Journal* 623; Darby Dickerson, 'Cyberbullies on Campus' (2005) 37 *The University of Toledo Law Review* 51. Everyday there are numerous instances published in daily print and electronic media regarding the harms that are directly attributable to the internet. The list grows daily.
[9] Jay Forder and Dan Svantesson, *Internet and Commerce Law* (Oxford Univerity Press, 2008) 13. Also see, Robert H Zakon, *Hobbes' Internet Timeline*,www.zakon.org/Robert/internet/timeline/Growth>. As of 2006, there were 439 286 364 host computers operating worldwide. This is up from four hosts in 1969.
[10] Paul E Ceruzzi, *Internet Alley: High Technology in Tyson's Corner, 1945-2005* (MIT Press, 2008) 135.
[11] Janet Abbate, *Inventing the Internet* (MIT Press, 2000) 2-5.
[12] GoogleVideos, *Inside the Internet,* 2007 (Leonard Kleinrock)<http://video.google.com/videoplay?docid=-1404668402272842371>.
[13] Ibid.
[14] James Slevin, *The Internet and Society* (Polity Press, 2000) 29-30.

[15] Ibid.
[16] Winston, above n 4, 320-1.
[17] Slevin, above n 8, 27-8.
[18] Ibid.
[19] Winston, above n 4.
[20] Ibid.
[21] Abbate, above n 7, 2-3.
[22] Ibidabove n 7, 2.
[23] See for example, Katie Hafner and Matthew Lyon, *Where Wizards Stay Up Late* (Simon and Schuster, 1996); Shoshana Zuboff, *In the Age of the Smart Machine: The Future of Work and Power* (Basic Books, 1988).
[24] Abbate, 181-3.
[25] Ibid.
[26] Susan C Herring, 'Computer-Mediated Communication on the Internet' (2002) 36*Annual Review of Information Science and Technology* 109, 114.
[27] J C R Licklider and Robert W Taylor, 'The Computer as a Communication Device' (1968) *Science and Technology* 22, 30-1.
[28] Ibid 28. It is interesting to note that as far back as 1968 the term 'online' was being used in computer science. We tend to think of this word as a relatively modern term, however there is evidence to suggest people were using this word in a similar context to now at the time of the invention of the internet.
[29] Ibid 28.
[30] Ibid.
[31] Ibid 37-8.
[32] Yochai Benkler, *The Wealth of Networks* (Yale University Press, 2006) 176.
[33] Ibid. This is not to say that exclusion from the mass media was limited only to the confines of authoritarian regimes, and it could be argued that western media also acts in less than amiable ways. See for example, L Brent Bozell, *National Public Unfairness* (24 March 2009) Media Research Center<http://www.mrc.org/BozellColumns/newscolumn/2009/col20090324.asp>.
[34] Benkler, above n 54, 212-3.
[35] Benkler, 213.
[36] James Katz and Ronald E Rice, *Social Consequences of Internet Use: Access, Involvement and Interaction* (MIT Press, 2002) chapters 2-6.
[37] Benkler, above n 54 133.
[38] Jim Walch, *In The Net: An Internet Guide for Activists* (Zed Books, 1999) 31.
[39] John Perry Barlow, *A Declaration of Independence of Cyberspace* (9 February 1996)

< http://w2.eff.org/Censorship/Internet_censorship_bills/barlow_0296.declaration>. For a full transcript of this declaration, see Appendix.

[40] Ibid.

[41] US History, *The Declaration of Independence 1776*<http://www.ushistory.org/declaration/document/> .

[42] Will Kymlicka, *Contemporary Political Philosophy: An Introduction* (Clarendon Press, 1990) 95-159.

[43]Walch, above n 60, 1.

[44] Walch, 1-3.

[45] See, eg, ABC Radio National, 'The Internet: Prophecy and Reality', *Big Ideas*, 15 October 2011 (James Curran) <http://www.abc.net.au/rn/bigideas/stories/2011/3339555.htm>.

[46] For example, see O'Hara and Stevens, .

[47] Kapur, above n 28, 3-7.