

 **One tweet does not a revolution make: Technological determinism, media and social change**

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Abstract

This paper discusses the problematic influence of technological determinism in popular news media coverage and analysis of the Arab Spring events of 2010-11.

The purpose is to develop insights into how and why elements of a 'soft' technological determinism inflect both journalistic practice and news discourse in relation to the Arab Spring. In particular it discusses how the 'bias of convenience' and a journalistic obsession with the 'continuous present' connect with this determinist inflection to create a potential distortion in the journalists' 'first rough draft' of history in relation to significant and complex events such as social revolution.

Debates about the significance of social media and communications technologies more broadly in generating mass outbursts of protest and even violence have raged in the popular news media for the past decade at least. A wave of interest in 'theories' about how and why new services like Facebook and Twitter may create or enable mass protest was generated by the revolutionary events in Iran following the June 2009 elections (Hirst, 2011). Many of the arguments then and now, in coverage of the Arab Spring, are suggestive of a form of technological determinism that is coupled with other underlying and little-investigated assumptions inherent in most forms of news practice and discourse.

The question of the influence of technological determinism within journalism studies is a far from settled debate and this paper follows Mosco's argument and suggests that the idea of a social media revolution is a myth of the 'digital sublime' (Mosco, 2004). At best social media is a new battleground in the struggle for information control. At worst it can blind activists and commentators to reality (Morozov, 2011).

Introduction

...we don't investigate things that everyone knows.
(McArdle, 2011)

Journalists are often very busy and, in the middle of a revolution, they are going to be very, very busy. In the field when there is sometimes gunfire and ever-present danger, a reporter has a lot to think about. Not only are there the pressures of survival; there are concerns about how well the gear is going to work; will there be an Internet connection and electricity when you need them; will your fixer turn out to be a dud or a diamond; and how do you go about trying to understand something when your language skills are limited and everything is moving at speed (Murrell, 2009). However, it is precisely at such critical times, in the middle of history's making, that reporters need to be on top of their game. As one prominent Australian historian put it, journalists can 'shape the public mood' about an issue and later commentators or, indeed, historians, 'follow the contours of what they define as important' (Lowe, 2012).

However, there is a great paradox in journalism; news often happens when reporters are not there to see for themselves. Outside of staged events – such as the Japanese surrender at the end of World War Two – journalists are rarely present when historic events occur (Flanagan, 2012). The 2010–2011 Arab Spring uprisings that began in Tunisia and spread to several other countries in the Middle East and North Africa may have been sparked by events not always witnessed by Western reporters, but within weeks the region was flooded with correspondents. The revolutionary moments they reported on were spread across several very different political and cultural landscapes crisscrossed with ethnic, religious and economic divisions. Events moved at speed and for the thousands of reporters parachuted into Cairo and other parts of the region, the subtlety and detail can perhaps become lost among the difficulties.

In such situations many reporters will fall back on what they know; they come to rely on the obvious and what is easy to see.

Perhaps, also slightly disoriented by the seemingly invincible discourse of determinism, reporters were also soaking up the ever present 'ambient journalism' (Burns, 2010; Hermida, 2010a, 2010b) – a heady brew of social media activism; scarce official pronouncements and revolutionary romanticism that coursed through the souks and through social media. Throughout the Arab Spring the use of social media by the overwhelmingly young activists, to provide a crowd-sourced commentary and even to organize their actions, became one obvious and easily understood trope that could enliven a news narrative and connect with Western audiences. The situation also took on the appearance of being an occasion of 'ambient journalism' – the audience itself becomes part of the news process and produces 'small pieces of content' (Hermida, 2010a). There is some truth in the idea that social media contributed something to the various uprisings that constituted the Arab Spring, but it is far from the whole and complex truth. It has led to the danger that in writing the 'first rough draft' of the history of the Arab Spring, reporters could privilege technology, rather than the actions of the many and varied participants.

A persistent, though perhaps 'soft', form of technological determinism permeated much of the coverage of the Arab Spring and has become one narrative stream of the 'first rough draft of history'. It manifested itself in several forms of bias evident in the news coverage – the perpetual present and the bias of convenience. These are explored in the first section to demonstrate how the journalistic discourse is inflected with a strong current of soft technological determinism.

The perpetual present

...our political journalism mired in a sort of 'perpetual present' in which what happened two days ago, let alone two years ago, is forgotten.

(Keane, 2010)

Journalism is often described as the 'first rough draft' of history, but for some it is the only draft. The history of the 'rough draft' aphorism itself is instructive here. For many years it was attributed to Phil Graham, publisher of *The Washington Post*. Many sources, including his widow Katherine Graham, had written that the phrase came from a 1963 speech by Phil Graham:

So let us today drudge on about our inescapably impossible task of providing every week a *first rough draft of history* that will never really be completed about a world we can never really understand...

However, it seems that Mr Graham may have read an earlier work in which the phrase was first used. In 1943 journalist Alan Barth used similar words: 'News is only the first rough draft of history.' By 1963, it transpires, Phil Graham had used a version of the now famous (if mangled) quote several times; particularly in 1948 and 1953. The connection between Barth and Graham is strong; Barth worked on the *Washington Post* in the 1940s as a senior member of Graham's editorial team (Shafer, 2010). Most sources still attribute the phrase to Phil Graham, demonstrating how the historical record can be distorted when assumptions trump journalistic skepticism. Each time an incorrect source is quoted it reinforces the error and moves the narrative further from the truth in a confirmation of the continuous present.

In the context of the Arab Spring the continuous present is manifest as an ahistorical view of contemporary events. If the Egyptian revolution took the West and Western media professionals by surprise as Michael Binyon suggested, it must only have started once we were looking. Before the moment at which Western journalists turned their gaze to Benghazi, Tunis, Cairo and Damascus (among others) there must have been stasis – nothing was happening.

For writers like Michael Binyon (2011) the 'tumultuous events' began at 'the start of the year [2011]' and 'telephones in the hands of angry young men and women' broke the 'political stasis' in Tunisia. This is a dehistoricised view that relies heavily on a determinist narrative. However, if unchallenged it has the power to become the popular version of the Arab Spring in which 'the mechanical arts' are endowed with world-changing properties. The view that telephones or social media were key to the revolution may yet prove to be an acceptable draft of history, 'embodied in a series of exemplary episodes, or mini-fables, with a simple yet highly plausible before-and-after narrative structure' (Smith & Marx, 1994, p. x).

Of course it is patently absurd to think that the events in Tunisia, Bahrain, Egypt, Yemen, Libya and Syria only began in January 2011 as if there was a political explosion out of nothing. As Sameh Naguib (2011, p. 3) argues: 'The Egyptian revolution did not come out of thin air'. Since then, in a race to catch up with history, reporters and analysts have eventually been made to give Western news audiences some of the background and the historical information.

A key area in which this bias of the present is obvious is the lack of previous coverage of the Egyptian workers' movement and activist protests between 2003 and the end of 2010. Naguib (2011, p. 8) points out the first rehearsals for the occupation of Tahir Square in January 2011 occurred in March 2003 when it was occupied for 24 hours after an anti-war protest by over 40,000 people. The democracy movement and the workers' movement – like all such formations – went through periods of upturn in struggle and periods of repression and retreat, but these were not news in the West. As long as Mubarak's regime was stable and compliant with US wishes in the region (support for Israel) internal opposition was not particularly newsworthy.

When it comes to coverage of industrial action and workers' political demands, we should not be surprised that Egyptian events did not seem an important story in Western media. Coupled with an overt Orientalism in the worldview of Western media is the built-in pro-business and pro-capital bias with which most journalists frame the world. This inevitably means that strikes and workers' demands are only reported when industrial action creates an inconvenience for consumers, commuters or users of a particular service. Strikes have to become huge and public sentiment firmly behind the workers before the news media will cover industrial action favourably. The last time this happened in Australia was during the 1998 maritime union dispute when the Howard government and the stevedoring companies lost the public relations battle by using thugs in balaclavas and guard dogs to protect scabs on the waterfront (Milner & Coyle, 2010). An understanding of what Eric Lee and Benjamin Weinthal called 'the truly revolutionary social networks' is a powerful corrective to the bias of convenience, the perpetual present and

technological determinism. Lee and Weinthal (2012, p. 283) describe the history of trade union action in both Tunisia and Egypt as the 'most overlooked' story in the media's coverage of the Arab Spring: 'it was the old-fashioned working class that enabled the pro-democracy movements to flourish'. In place of this more nuanced explanation of the Egyptian events, the media coverage might suggest was a vast network of connected individuals united and made brave by the anonymity of social media. This propensity to attach greater importance to convenient and easy explanations also links to a form of determinism when it comes to reporting the Arab Spring.

The bias of convenience

...while an expert can miss information because they assume they already know what there is to know, a newcomer can miss information from not knowing enough to know what there is to ask. (Wallace, 2010)

There is a quiet bias in journalism that is not overt, nor even always intentional, but it is a skewing of the story at hand to fit preconceptions, or, indeed, to fit the *available* facts as commonsense would present them. The former ABC correspondent Peter Lloyd talks about this phenomenon in the immediate aftermath of the Boxing Day 2004 tsunami. Lloyd was in the Thai holiday resort of Phuket along with a large contingent of reporters who relied on the 'endless supply' of agency and amateur videos of the waves' impact and 'played safe in order to feed the beast of hourly deadlines'. Lloyd provides a rare insight: 'the more we report, the less we are reporting' (Lloyd, 2010, p. 93). This is the trap of the 24-hour news cycle with its continuous deadlines, the beast is fed by recycling and embellishing what is already known, but it prevents any new information being uncovered.

This problem of journalists not knowing what the story is really about until it is on top of them is evident in coverage of the Arab Spring. As one columnist noted four months later, the February 2011 events in Egypt, 'caught the West off guard' (Binyon, 2011). Not only were diplomats blind-sided, but many reporters too had little previous experience or insight on which to base their coverage. The positioning of social media as the key driver of revolution in the Middle East is an example of how the Western media responded to being caught 'off guard'. As Hugh Tomlinson (2011) wrote in *The Times*, the contribution of social media had, by July 2011, become 'one of the most compelling' narratives around the Arab Spring. In the same week another *Times* columnist provided further evidence of why this occurred: 'the Arabs suddenly understood the power of the new media' (Binyon, 2011).

The trope of the Arab Spring being, or at least being attributed to, a social media revolution covers up the lack of preparedness and historical knowledge among correspondents who come to rely on an easy to digest narrative based on available facts and not requiring any difficult historical contextualizing. The Princeton historian Edward Tenner is credited with coining the phrase that best describes this type of bias: 'the bias of convenience' (Rosenberg & Feldman, 2008). In journalism this bias can be brought to a story unwittingly for a number of reasons; it can be a matter of time and speed, or linked to a certain level of groupthink and the well-documented pack mentality that can occur among reporters (Tiffen, 1989). It might also be that the angle on the story has been predetermined by head office. Another explanation could be that the journalist is out of his or her depth in relation to the topic. Alternatively, the cause may well be hubris – the reporter thinks that they know more than they actually do know; or it could be fear of being found out by competitors or superiors. Lane Wallace provides an example from a press conference she attended where most of the reporters did not fully understand what they were dealing with – in this case, a new technology product from an established firm in the field:

They just appeared to think they knew the subject well enough, or had a set enough idea in their heads as to what this kind of story was about, that they pursued only the lines of questioning necessary to fill in the blanks of that presumed story line. (Wallace, 2010)

Whatever its cause, the bias of convenience creates problems because it reduces the reliability of the reporting and it can also create a false historical trail when the story is later analysed, or used as background for ongoing or subsequent coverage. Another way that a bias of convenience may have relied on a determinist view of social media in relation to the Arab Spring is the simple fact that outside of Egypt and for many days (if not weeks) television networks were reliant on social media for information not tainted by association with the regimes under attack: 'professional satellite TV fed off online citizen journalism', is how Timothy Garton Ash (2012, p. 277) reported events in *The Guardian* on 19 January 2011. Garton Ash's own soft determinism is evidenced by his comment that communication technologies 'did not cause [the uprisings] but they helped'.

The bias of convenience can also be the product of worldview or ideological perception. It is a common charge on both the left and the right that political bias renders one's opponents wrong on every issue and proposition. This type of bias is particularly dangerous when reporting the mundane politics of the everyday; it can be profoundly misleading when it comes to the reporting of unprecedented events like the Iranian uprising of 2009 or the Arab Spring of 2011. (For a full account of the so-called Twitter revolution in Iran see Hirst, 2011, pp. 131-144)

Journalist Megan McArdle (2011) sums up issues with a bias of convenience in relation to her own work:

Before I was a journalist, I used to wonder why journalists were suppressing obvious important facts; after I became a journalist, I realized that it's often incredibly hard to know that there's a fact you're missing.

If a reporter is working within the bias of convenience they may not even recognize it; they may not know that there are facts or angles that are missing from their story. However, the consequences can be far-reaching; it becomes what McArdle (2011) calls an 'epistemological question'. The mis-reported information becomes the factual basis for further stories; 'pseudofacts' become reality in the eyes of the ill-prepared reporter. The question is: How to prevent the wrong data from informing all, or even some, subsequent stories?

The epistemological question in relation to the Arab Spring is: How much has technological determinism and the bias of convenience contributed to misreporting and therefore misunderstanding of the social dynamics in play? In this regard the hoax 'Gay Girl in Damascus' incident is illuminating. As Josephine Tovey noted in the *Sydney Morning Herald*, 'if Araff did not exist, we would have had to invent her', which is exactly what happened. The reason so many Western journalists and others fell for the trick was that the character of 'Amina Araff' matched the worldview of 'many liberal-minded people' (Tovey, 2011) whose perceptions of the Middle Eastern 'other' were ideologically constructed around the still operative principles of Said's famous 'Orientalism' thesis, which posits that a set of simplistic generalisations and stereotypes substitutes for a lack of understanding of, and empathy for, the Middle East and Islam in media discourse (Said, 2003 (1978)). In the 'Gay Girl' scam, the fictional Armina Araff became the 'queer heroine' and 'apparent victim' rolled into one character with a 'compelling personal story' (Tovey, 2011) that appealed to unsupported prejudice and desires among a Western audience. What emerges from this incident is that the convenience bias created the conditions in which latent Orientalism combined with a soft technological determinism to generate a believable – only because some people 'wanted to believe' – and easy to comprehend narrative that fit with pre-existing conceptions and presented a 'palatable face of the uprisings' to Western audiences (Tovey, 2011). The bias of convenience, reporting in the continuous present and a lack of historical context combine with soft determinism to present a one-dimensional view of complex events; however, it is technological determinism that holds together this truncated explanation of social revolution.

Technological Determinism

...will the technology of the computer and the atom constitute the ineluctable cause of a new social order? (Heilbroner, 1967, p. 336)

In a determinist view, technology takes on an active 'life of its own' and is seen to be a driver of social phenomena, rather than implicated itself in social relations. The American economist Robert Heilbroner poses technological determinism as a question in 'Do machines make history?' According to the affirmative argument, technology stands outside of social relations and human action – the machine itself appears to be 'alive', or at least capable of directing human behaviour. Our attention is drawn to the consequences of technological innovation rather than its genesis: the new machine or device 'seems to come out of nowhere' (Smith & Marx, 1994, p. x). In this way complex social events are seen as the 'plausible result' (p.xi) of technology rather than human agency. Additionally, the social content of technology appears as a natural phenomenon and is itself masked by determinism (Medosch, 2005).

There are several aspects of both technology and determinism that must be addressed in order to consider an effective use of technological determinism in the discussion of social media and news reporting of the Arab Spring: the first is 'What is technology?' and the second is to consider the intensity, or strength, of the forces of determination. As Bruce Bimber put it in a widely-cited discussion of determinism, accounts of its power 'differ as to why and how technology is so influential' (1990, p. 336). The third question – which is at the heart of our discussion is: How might technological determinism manifest itself in journalism practice and news discourse about the Arab Spring?

What is technology?

In very simple terms, technology is a piece of machinery, or a device, that enables us to carry out tasks and functions that add value to production or improve our lives. We often think of technology making our lives easier. A mobile phone or iPad is considered a 'piece' of technology. Technology, in this sense, consists of objects. These objects, tools and artifacts are seen as the inevitable product of what have become known as technological revolutions. This objectified approach also tends to flavour common understandings of revolution as something outside of rational human control. It is an ideological view of social change that is closely aligned with what Karl Marx called the fetishism of commodities: a tendency in capitalist society to see social relations through the prism of things. In volume one of *Capital* Marx wrote that manufactured objects (including technology) take on a commodity form and thus become 'a very queer thing, abounding in metaphysical subtleties and theological niceties' in which 'the social characteristics of men's own labour' appear to be properties of the objects themselves. It is these commodity forms, not their human producers, that take on the 'socio-natural properties' of relations between people (Marx, 1990 (1867), pp. 162-164). It is easy to see how determinism can enter the picture at this point.

However, a complication is inserted into this debate when we consider multiple definitions of technology (Bimber, 1990). If technology literally means machines and only machines (fax machines, computers, mobile phones etc.) then the question of determinism is relatively clear-cut and we can say "Yes" or "No" to Heilbroner's simple query. On the other hand, if the definition of technology is broadened out to include 'modes of organization as well as machinery' (Kreimer, 2001, p. 120) the simple yes/no dichotomy breaks down.

Bruce Bimber regards the broadening of definitions of technology as problematic for a discussion of determinism because to include 'knowledge' or 'systems of organization and control' tends to conflate dependent and independent variables and weakens the analysis (1990, pp.340-341). However, we need to understand technology in three forms to come to grips with the concept of 'soft' determinism and 'media determinism' as set out in this paper. The first form of technology is an object or system of objects that provide a practical solution to a common problem. The second is technology as technique or branch of knowledge. The third is to see technology as a set of objects and practices that exist only within certain social relations, particularly in the production process – the forces of production – but also more widely. For example, the ways in which mobile phones are adopted, used and adapted within different cultural and social contexts constitutes the fullest understanding of the *technology* of mobile phones (For a fuller discussion of this see Hirst & Harrison, 2007, pp. 58-69).

Marxism and technological determinism

Was Marx a technological determinist? This oft-quoted passage from *The Poverty of Philosophy* is used to make the case that

he was:

The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist.

However, in the context of his polemic against the anarchist Pierre-Joseph Proudhon and taken in context, it shows that Marx was actually making the case for human agency:

M. Proudhon the economist understands very well that men make cloth, linen, or silk materials in definite relations of production. But what he has not understood is that these definite social relations are just as much produced by men as linen, flax, etc. Social relations are closely bound up with productive forces. In acquiring new productive forces men change their mode of production; and in changing their mode of production, in changing the way of earning their living, they change all their social relations. The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist.

The same men who establish their social relations in conformity with the material productivity, produce also principles, ideas, and categories, in conformity with their social relations.

Thus the ideas, these categories, are as little eternal as the relations they express. They are *historical and transitory products*. (Marx, 1847, p. 49)

It is the acquisition of new technology (productive forces) in the context of existing social relations of production that 'forces men' to change the mode of production. It is a process of dialectic and agency; not simply one of the technology creating the change of its own volition. Bimber makes the point that Marx (and Marxism) cannot be reduced to either technological or economic determinism: technologies (as broadly defined in this paper) and the division of labour that accompany the birth and consolidation of capital are in 'no way...independent of social history':

The introduction of technology into the labour process is contingent upon preceding social organization, specialization and aggregation of wealth. (Bimber, 1990, p. 345)

In other words existing class relations determine the development and deployment of technologies that then, in mutual constitution (Mosco 2004), impact upon social relations and create the conditions for further technological and social change. It is the social drive to accumulate capital and the necessary division of labour into ever more specialized fields that creates and feeds the process of reification, which sees labourers increasingly alienated from the products of their labour, including technology. Technology becomes 'thingified', objectified and cut out of the social context in which it exists. It becomes fetishized in its commodity form and it is then re-presented to us as a series of object or artifacts (Chandler, n.d.)

Hard or soft determinism?

In a long career, Robert Heilbroner (1967, 1994) wrote two important articles on technological determinism in which he elucidated a distinction between what he called 'hard' and 'soft' determinism. Importantly, these points are at either end of a continuum. A hard determinism would argue that social structures emerge, adapt, evolve and grow in a specific response to technological developments. It is a view that suggests 'scientific laws...in their inexorable application, produce technology', which in turn sets the limits to the exercise of agency or free will (Bimber, 1990, p. 338). Yet Heilbroner struggled with a purely machine-made view of history when reflecting on 'Do Machines Make History' nearly 30 years later. The link between technology and changed circumstances in the 'socioeconomic order' is not so straightforward and translating 'changing technology into behavioral responses' proved difficult. Determinism becomes 'a mechanism of a near-alchemical kind' and economics must enter the equation of determinism as a 'force field' (Heilbroner, 1994, pp. 70-71).

A 'hard' form of technological determinism, at the extreme, would posit that technological and social evolution – or indeed social revolutions – occur in a 'logical sequence' along a fixed historical path that is somehow 'predetermined' and oblivious to 'human intervention' (Bimber, 1990, p. 341). With one or two exceptions, even the most excited and optimistic reports of the role of social media in the Arab Spring could not be held to this standard of determinism. It is the 'soft' end of this continuum where technological determinism sits in relation to the news media and the revolutionary role of social media the Arab Spring. Here any direct 'mechanical linkage' is eschewed in favour of a matrix that includes 'social and political preconditions', but in which it appears that the technology is determinant in the last instance (Heilbroner, 1994, p. 76). One good example of this is a piece by BBC correspondent Paul Mason. He wrote a column for *The Guardian* that typifies a medium-soft technological determinism:

Technology expanded the power of the individual – their sense of injustice, social and personal – and the whole recent history of revolt, from Iran to Egypt to the French banlieues, is driven by this. (Mason, 2012, p. 283)

As with much of the commentary that favours this soft determinist view there is a grain of truth in Mason's analysis. But it is a dialectical truth in which myth overtakes history through the 'transcendent characteristics' of technology (Mosco, 2004, p. 24). A technological expansion of individualism – mobile computing, the always on social network and continuous access to continuously scrolling information – is also an expansion of alienation and a further embedding of commodity fetishism into our daily lives. It is a double-edged sword. In the context of convergence culture and communication, Vincent Mosco calls this phenomenon of ignoring or downplaying the dialectics of technology the 'digital sublime'. In terms of communication technologies the myth-making takes the form of a promise (which remains unfulfilled) 'of a new sense of community and widespread popular empowerment' (Mosco, 2004, p. 25).

The digital sublime: Soft determinism or mutual constitution?

Rather than see determinism (hard or soft) as a one-sided mono-causal process that privileges technology in some way, perhaps it is better to view the relationship of technology to society through the lens of the dialectic.

In this sense we can observe a process of combined and uneven development at work; or what Mosco calls the 'mutual constitution' of social relations. The process of mutual constitution – also called 'multiple determination' – is explicitly counterposed to technological determinism. Mutual constitution proposes that causality in the social world is complex and lies in the actions of one force on another that is also pushing back in both a linear and non-linear fashion best characterized as 'combined and uneven' development (Mosco, 1996, pp. 6-11). In these accounts, based on an interpretation of Marxism that is not technologically determinist, social relations and conditions create the determining force, not technology: 'the forces of production do not enjoy causal primacy over aggregate human factors' (Bimber, 1990, p. 335). In Mosco's interpretation there is interplay between 'culture and political economy', including technologies (2004, p. 83).

I would argue that the process of mutual constitution is partially hidden from most journalists because they operate within the unconscious 'bias of convenience' that tends to ignore a dialectical worldview. It seems obvious, factual and a product of commonsense that the introduction of new communications technologies – mobile phones, social networking, micro-blogging – would create a social as well as a technological revolution.

This tendency to rely on the obvious occurs when real meaning is hidden behind a process of reification (Love, 1999, pp. 56-58) that creates an ideological perspective so embedded in the technologies of communication that the process of multiple determination is rendered invisible to most reporters and editors. It is this 'taken-for-granted' nature of digital technologies that reinforces Mosco's 'digital sublime' – mobile phones and social media applications are imbued with almost mythical qualities and powers. The key argument to make against this commonsense view is that in the triadic movement of the dialectic, it is social relations, not technological artifacts, that is determinant in the last instance:

...technological change is always cumulative, but always under the influence of the prevailing social conditions...a series of contradictions, conflicts and resolutions. (Hirst & Harrison, 2007, pp. 64-65)

A contemporary 'turn' in the philosophy of technology debate seeks to argue that blunt determinism has been replaced with a more nuanced form of technological 'constructivism' that acknowledges cultural differences in the assimilation and application of technologies (Feenberg, 1999); however, I would contend that constructivism is a form of soft determinism that continues to privilege technologies as being primarily causal. While social relations are identified as context for technological development, it is the technology itself (and the artifacts in which it is embedded) that remains at the centre of a constructivist worldview (Kallinikos, 2004). Even a 'mild' form of constructivism reinforces the primacy of the artifact by suggesting that the social forces that contribute to a particular technological age are 'embodied' within the technology itself (Brey, 1997). This debate has not yet found its way into journalism studies, but it might provide a useful avenue for further consideration, particularly in the context of social media, user-generated news-like content and the news cycle. As this paper demonstrates there is an observable determinism evident in what passes for journalistic commonsense. The Arab Spring certainly brought this to the fore in news accounts; perhaps because many journalists are not sufficiently learned in the process of social upheaval and revolution.

Technology and the repertoire of protest

[I]t is hard to find an aspiring social movement, new or old, of left, right, or center, without a website, a bulletin board, and an email list.

(Kreimer, 2001, p. 125)

Seth Kreimer's outline of how American protest groups (from the Ku Klux Klan to the anti-globalisation movement) have taken advantage of new and emerging communication technologies and the removal of legal/organizational constraints on communication makes the point that sub-altern movements rely on relatively sparse resources to fund their activities. Protest groups – by their nature anti-establishment – have no (or limited) access to 'large capital expenditures' (Kreimer, 2001, p. 122).

Kreimer's discussion is focused on the Internet and the spaces it has created for social movements to establish a web presence. A lower cost base creates some necessary conditions for sub-altern groups to enter the public discourse over issues: 'global access in turn facilitates challenges to the status quo' (Kreimer, 2001, p. 125).

Though written a decade ago, Kreimer's analysis is central to the discussion of the role of social media and determinist arguments in the news discourse of the Arab Spring. He makes an explicit connection between the availability of alternative means of communication (websites) and disaffection with mainstream news coverage:

In the past, intermediary institutions stood astride access to the mass public. Those who controlled newspaper chains or political parties could filter or block insurgent messages.

...today, insurgent websites make directly available to potential listeners information and analysis that is not carried in the mainstream press. (Kreimer, 2001, pp. 125-126)

The central argument in this context is that the emergence of the Internet means that governments can no longer totally suppress dissent within or across physical borders and that activists can now bypass the mainstream media. As Kreimer puts it, conservative news organisations can no longer prevent information leaking out to a wider public audience; the added benefit is that the web also enables 'two-way linkages' between activists and audiences potentially creating active sympathisers, rather than passive watchers. In this passage Kreimer prefigures the evolution of citizen journalism: 'Every sympathizer or

movement member becomes a potential reporter' (Kreimer, 2001, p. 130). There is no doubt that this tradition of alternative news and journalism is important to our understanding of activist media today even if institutional forms such as Indymedia have been largely overtaken by less formal and decentralized information flows such as the problematic use of 'activist' video from Syria and other places that are difficult for MSM journalists to access.

The limits to online activism

Kreimer is not a starry-eyed optimist; instead he offers three conditions that impose a very real limit on the efficacy of online activism: the 'digital divide'; the 'digital attention deficit'; and the 'vices of visibility' (2001, p. 140).

The digital divide has narrowed somewhat since Kreimer wrote his essay in 2001, the sale and distribution of PCs, laptops, tablets and smartphones shows no sign of slowing down and as prices fall, availability increases. However, there are still divisions across the world. For example, across the Middle East, with a total population of around 217 million, there are some 78 million Internet users or roughly 35 per cent of the population. By contrast, in North America, the population is around 347 million and Internet usage is 273 million or 79 per cent (Internet World Stats, 2012). On top of this geographic divide we also have to add an economic dimension; while the cost of technology and access is falling, it is still relative to other cost-of-living and income factors. The third aspect of the digital divide is literacy levels and while digital literacy is growing across the world it is an uneven process linked to both geography and relative social wealth.

The 'digital attention deficit' is Kreimer's way of describing the problem of information overload. The number of web pages exceeds the world's population and content competes for eyeballs. Today, even more than in 2001, activist sites and social media efforts are competing with a forest of free content from news alerts to celebrity tweets and everything in between; from the annoying – product placement on Facebook – to the merely distracting – YouTube videos of cats. In order to establish 'cut-through' in this crowded visual marketplace, activist groups have to expend greater amounts of energy and the unit cost of reaching its core audience (or attracting a new audience) is quite high.

The 'vices of visibility' refer to the increasing opportunities for both surveillance and counter-surveillance that the Internet creates:

Precisely the qualities of the Internet which enable insurgents to reach previously unaffiliated constituencies allow opponents to track and counter insurgent activities. (Kreimer, 2001, p. 162).

We are familiar with this in authoritarian states, such as China and Iran; it has also been a feature of the 'Arab Spring' in many countries where Internet access was sporadically curtailed or entirely blocked for periods of time in an attempt to stifle both online and offline dissent.

Technological determinism and the media

Technological determinism has a strong hold over the media imagination and, therefore, the public imagination. It is in this sense that I am using the term 'media determination' to represent an unconscious trope that colours news accounts and that can influence the actions of journalists in defining or shaping a story. Part of the reason for media determinism may well be that the media itself is constituted as a group of technologies; everything from writing and literacy through to the printing press, radio, television, computers, the Internet and of course digital communication devices of all shapes and sizes (Chandler, n.d.). Marshall McLuhan's famous trope 'the medium is the message' is an example of how this determinist essentialism colours everyday views of the mass media.

The context of McLuhan's aphorism provides the first clue to the determinist essence of his argument:

In a culture like ours, long accustomed to splitting and dividing all things as a means of control, it is sometimes a bit of a shock to be reminded that, in operational and practical fact, the medium is the message. (McLuhan, 1967, p. 23)

A few lines further down the technological determinist nature of this passage is confirmed: 'it is the medium that shapes and controls the scale and form of human association and action'. In a later passage he returns to this theme: 'the formative power in the media are the media themselves' (McLuhan, 1967, p. 66). We see this trope repeated in contemporary debates about social media and journalism today. There is a continuum of soft determinism in suggestions that it is the real-time network technologies themselves that are creating 'distributed' journalism (Hermida, 2010a). The debate about the influence of technological determinism on media practice and on theoretical understandings in journalism studies is not resolved. A soft media determinism is still present in popular journalism and in academic studies.

McLuhan's mentor, the Canadian economist and media theorist Harold Innis provides some insight into the roots of media determinism in media and journalism studies. For Innis each medium has an in-built technological bias. Older and heavier technologies – such as stone – were space-based and very location-dependent; on the other hand newer technologies – such as paper and broadcasting – are time-based; they are lighter and less location-dependent (Innis, 1951). Innis' determinism is evident in his key text *Bias in communication* in which he argues that the adoption of a new communications technology will eventually lead to 'the emergence of a new civilization' (1951, p. 34). According to one influential critique of Innis and McLuhan, they both saw communications technologies as 'crucial determinants of the social fabric' and also as the engine of social change (Carey, 1967, pp. 5-6). The pervasive presence and mimetic qualities of much of McLuhan's work – expressed in easy-to-digest aphorisms in the media and popular culture – go some way to explaining, or at least excusing, technological determinism in media accounts of the world. It is also useful to note that McLuhan's determinism was accentuated and hardened into an almost official ideology of progress in 1960s America by the Bell Commission on the Future (Medosch, 2005, p. 16).

Reification of technology in the media

People seem all too willing to believe that innovations in technology embody humanity's choice of its future.
(Smith & Marx, 1994, p. iv)

Reification is the process of disembodiment of thought and action from human agency and reflecting it back as an ahistorical axiom of commonsense or perceived wisdom. It is linked to a process of 'forgetting' (Jay, 2008), but it is more akin to having not known about something, or perhaps having an understanding of something that prevents true knowledge of it. Reification is the philosophical twin of commodity fetishism and it is important in creating the myths of technological determinism. The media plays a crucial role in this process. Smith and Marx (p. iv) pose a question that sets this dilemma in context: Is that choice (real or not) 'an expression of freedom or an expression of necessity'? Marshall McLuhan captured the impact of reification on the human psyche in a classic phrase in which he describes a man 'hypnotized by the amputation and extension of his own being in a new technical form' (McLuhan, 1967, p. 25). The important influence of social forces upon human history remains hidden behind the curtain of reification and the attendant celebrations of technological power. Machine power (or the power of social media) disguises the basic principle of Marx' humanism and materialism: 'whatever natural or inherent effects technology tends to produce are overcome by willful human actions' (Bimber, 1990, p. 348). Jameson (1979) offers an insight into why reification – the turning of the world on its head – plays such a role in journalism; the commodification of all cultural artifacts in late capitalism – from novels, to theatre, movies and many forms of leisure – also applies to narrative forms such as the news. It is the process of commodification of information itself that allows the reified worldview to dominate. It is my contention that we have seen this process at work in coverage of the Arab Spring: a soft determinism came to dominate much of the news discourse and therefore become the first rough draft of its history.

Technological determinism in the coverage of the Arab Spring

For years, bloggers, political activists, and more recently Facebook activists would plan a day of protest, send thousands of text messages, get tens of thousands of virtual supporters and on the planned day a few hundred of the usual suspects would show up, sometimes reaching the magical number of one thousand.
(Naguib, 2011, p. 13)

As academic and activist Sameh Naguib observed, if Facebook alone was the trigger for revolution, we'd still be waiting for the Arab Spring. Our willingness to believe in the power of social media, particularly in relation to the Arab Spring, also creates a willingness to suspend some of our critical faculties. The trope of the Facebook revolution in Egypt was so powerful that the world was suckered by an online hoax of stunning simplicity, but that was successful for several months from February to June 2011. As Josephine Tovey (2011) wrote in the *Sydney Morning Herald* when the 'Gay girl in Damascus' blog fraud was revealed, there was one simple reason people believed the increasingly outlandish posts for nearly five months: 'As someone who was suckered, the best answer I can offer is: because we wanted to.'

Within weeks of the Arab Spring journalists were jumping on the social media causes revolution bandwagon. In May 2011 *The Times* reported on the Scottish National Party (SNP) unexpected win the parliamentary elections in flowery terms comparing the victory to the overthrow of Mubarak:

A Scottish summer has begun that feels every bit as vibrant to these party workers as the Arab Spring felt in Egypt. (Wade, 2011)

The comparison is justified says reporter Mike Wade because the SNP used social media 'to stunning effect'. It appears there may be some truth in this, according to statistics supplied in the article the party's interactive social media hub site registered over 35 thousand users or nearly three times the SNP's membership. What is evident is the vast amount of effort by party workers to make the technology work for them; it was the content, not the software (technology) that delivered the votes.

Was the Arab Spring the beginning of 'a strengthening borderless digital movement' that will 'disrupt powerful institutions'? This is the optimistic view presented by Jose Vargas (2012) in a review of Wael Ghonim's *Revolution 2.0*. Ghonim is an important figure in the debate about the role of social media in the Arab Spring. The Google executive is credited with sparking an online revolt when he established a Facebook page 'We are all Khaled Said' – a reference to a young activist murdered by the Egyptian secret police. Vargas even marks the date, June 8, 2010 as a milestone in the history of the 'embryonic, ever evolving era of social media'. Ghonim himself appears to have a good grasp of the dialectics involved in mass struggle. Writing about the 'We are all Khaled Said' campaign, he notes that actions on the street – such as the 'Silent Stand' on June 19, 2010 – led to an increase in activity on the Facebook page; a sign that the protest action was giving young Egyptians confidence, rather than the more passive action of liking or commenting on a Facebook page (Ghonim, 2012, pp. 84-85). It is also worth noting that Arabic reporters who had good local knowledge were less inclined to view the January-February events as a result of online protests. Writing in *The Observer* five days after the occupation of Tahir Square began, Mona Eltahawy (2012, p. 274) noted: 'the internet didn't invent courage...when the dictator shuts the internet down protestors can still organise'.

In March 2011 Twitter turned five, an occasion that was noted in a *Times* editorial just one month after the Egypt protests had forced the resignation of Hosni Mubarak: 'Social media did not cause the Arab Spring, but have certainly facilitated it.' The editorial described the use of social media 'the stuff of nightmares' for tyrants across the Middle East (*The Times*, 2011). How did this trope of social media causality, reification and soft determinism take hold in the news media's coverage of the Arab Spring?

Bruce Bimber's paper 'Karl Marx and the three faces of technological determinism' provides some useful insights into the process of normalization that promotes the acceptance of a technologically determinist discourse within news and journalism. He summarises an argument from Jurgen Habermas which has as its focus 'norms of practice'. A capitalist society that values

efficiency and progress above other human qualities, valorises the reified appearance of 'the social relinquishment of control over technology' (Bimber, 1990, p. 337). Control is not relinquished in any real sense, but the locus of control – in the social relations of capital viz labour – is hidden from view behind the veil of ideologised notions of progress and efficiency:

As surrogates for value-laden norms and judgments, efficiency and technique lead to the technological society. (Bimber, 1990, p. 337)

Technological determinism can manifest itself in the working practices of journalists in their reliance on reporting with a 'bias of convenience' and from a perspective the 'continuous present'. This explanation can be supplemented by acknowledging the news media's reliance on emotionally compelling discourse of recyclable clichés 'guaranteed to extract a gut response' (Flanagan, 2012).

Conclusion

Social media did not cause the Arab Spring, but have certainly facilitated it...Today the masses can speak with voices to match the mighty.
(*The Times*, 2011)

As the *Times* editorial highlights, the soft determinist position on social media and revolution in the Middle East was thoroughly mainstream only a few weeks after the February events. At the other end of the scale, the *Times* editorial argues, we perhaps knew little about events in Libya 'because so few Libyans tweet'. I would argue that the bias of convenience and an addiction to the continuous present may have been more salient factors. The rhetorical flourish of 'voices to match the mighty' is typical of the conservative *Times*, but perhaps rather more grandiose than realistic.

Jose Vargas (2012) locates the beginning moments of the Arab Spring with the Facebook protest organized by Wael Ghonim, creating something that 'inevitably spilled onto the streets'; but other accounts suggest that the social media revolution had other, earlier moments of genesis that quickly died out, or did not deliver their promise. Hofheinz notes that as early as 2008 Facebook protests had emerged in Egypt, including up to 70,000 joining a group in solidarity with labour strikes. However, there was no follow up action on the streets, perhaps due to repression, but other activists pointed out then, and since, that successful protests depended on 'grassroots movement on the ground, rather than a mouse click on Facebook' (Hofheinz, 2011, p. 1419).

There is no doubt that social media can play a role in offline as well as online mobilization. Seth Kreimer noted in 2001 how what he calls 'insurgent' activists successfully used the Internet to initiate political action that involves protest marches and other forms of street protest. Today we expect this to be routine and organisations like Avaaz can claim millions of 'members' around the world without having any real centralized physical presence.

Despite another decade of technological advance – Facebook and Twitter were only wishful thinking in 2001 – Kreimer's conclusions still resonate today:

The potential for ultimate democratization, however, is only a potential. I have, I hope, demonstrated that the Internet bears risks as well as rewards for insurgents, and in this area as in others there is at most a 'soft technological determinism' at work. (Kreimer, 2001, p. 170)

In the context of the Arab Spring, Jose Vargas provides an adequate summary of the power of social media:

Technology, of course, is not a panacea. Facebook does not a revolution make. In Egypt's case it was simply a place for venting the outrage resulting from years of repression, economic instability and individual frustration. (Vargas, 2012)

Even Wael Ghonim recognized that true mobilization must move beyond Facebook pages and the Internet: "'Reaching working-class Egyptians was not going to happen through the Internet and Facebook,'" he notes' (Vargas, 2012).

Rather than relying on a determinist view of social media, this paper has argued that it is more productive to examine the relationship between technology and social revolution in a series of dialectical moments. The relationship is not a simple one-to-one correspondence between an ever advancing technological 'know-how' and a consequentially increasing level of revolutionary feeling. It is, rather, as Mosco argues in *The Digital Sublime*, a process of combined and uneven development: technology and social relations – particularly those of production – dance with and around each other, taking turns to lead.

This becomes clear when we introduce issues of surveillance, repression and social control into the equation. Seen through the prism of combined and uneven development, social media loses its revolutionary mystique; it can be equally a tool for regimes to fight-back, or to cling to power (Bell & Flock, 2011; Tomlinson, 2011). The dialectical process of analyzing the relationship of combined and uneven development in the social uses of technology is apparent in Edward Tenner's work on 'unintended consequences' (WW Newsletter, 2011). Rather than seeing the Arab Spring as a direct result of a technologically determined path of historical development, we should perhaps characterize it as an unintended consequence of the historical dialectic tensions between technological development within the political economy of Egypt and the region and the social trajectory of the Middle East for the past 30 to 50 years (which is also the approximate time-scale of the regimes that have been, or are in the process of being overthrown). Seen in this light, determinism in the media coverage of the Arab Spring, represents one of the many paradoxes of technology (Mick & Fournier, 1998). One paradox is that the important history of class struggle in Egypt – for so long hidden from the gaze of the world by a mis-informing media – has now been pushed onto the front pages and is leading global news bulletins. For now, technological determinism has shown it is no match for the more powerful story of the streets and squares of Cairo and other centres of revolution across the Middle East.

The implication is, of course, that journalists and media scholars will need to learn more about the social causes of revolution and upheaval if they are to help adequately explain the trajectory of the world in these critical times. At the same time, a more thorough examination of both technological determinism and technological constructivism within journalistic praxis and news discourse will shed more light on this issue.

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