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A Temporalized Internet

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Abstract

Within global capitalism it can be observed that within the Internet and the network society more broadly, are rarely considered from the perspective of temporality; that is, beyond the neo-liberal efficiency mantra that 'faster is always better'. Temporal acceleration has become an autonomous logic within electronic networks, one generated through capitalist competition, with little or no thought to its wider effects. I argue that the acceleration associated with the Internet is in fact a profoundly problematic issue across social, cultural and, especially, political realms. Through the articulation of a political economy of temporality, I maintain that it is necessary to 'temporalize' the Internet and its processes, to bring under more social democratic control its developmental trajectory. To this end, I will speculate upon the need for a bi-cameral Internet; a social and commercial network communications system that makes the social relation to time, and the technological mediation of that relation, a central element of its future functioning.

> Conceptions of limit, measure, equilibrium, which ought to determine the conduct of life are, in the West, restricted to a servile function in the vocabulary of technics.
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> Simone Weil, *The Iliad, or The Poem of Force*, 1939/2005: 16.

Introduction: The power of money and pure movement

In his 2014 book, *In the World Interior of Capital*, Peter Sloterdijk observes that the economic modality of electronic globalization has effectively meant the end of the purely spatialized, terrestrial capitalism that we have experienced for two hundred and more years. This globalized capitalism has become more temporalized; an interiorized and informationalized form that "draws inward everything that was once on the outside" while at the same time creating the perception of a "synchronous world" (Sloterdijk, 2014: 12). This "world interior of capital" may be read as a global, societal and individual regression to the sublimated spheres of a deeply internalized ideology where, as Perry Anderson has already noted in another context, there are "no longer any significant oppositions—that is, systematic rival outlooks—within the thought-world of the West" (Anderson, 2000: 17). As Sloterdijk explains it, the hermetically sealed world created by the lived reality of neoliberal capitalism acts as a kind of "shroud" over our collective consciousness and elides everything external. In this environment, relationships, ideas, solidarities and worldviews are

"created artificially as seriously as if no external facts existed" (Sloterdijk, 2014: 115). The grand narratives of the earlier, terrestrial phase of globalization, such as modernity, Marxism, Christianity, or liberal progressivism have, Sloterdijk tells us, evaporated or become marginal because they were not grand enough to properly legitimize the reality of a capitalist totality.

However, in this reading of Sloterdijk, the narrative-story of how the world is today has not become superfluous, marginal, or insufficiently grand. The narrative-story that guides much of humanity is in rude health and functioning in "the world interior of capital". It helps create, for instance, the microsecond time frames that now open up (for capital) within 24 hour cycles. The narrative also articulates the language, and sings the praises, of what Sloterdijk terms the "super-commodity of information" (Sloterdijk, 2014:140). What we have, in effect, is a new grand narrative; a totalitarian grand narrative of the very same kind that Jean-François Lyotard saw as invoking a postmodern stance of "incredulity" (Lyotard, 1979: xxiv). This is the grand narrative of information, or more precisely, one of finance and speed. In Sloterdijk's terms, the grand narrative concerns "the power of money and pure movement" (Sloterdijk, 2014: 12). In our postmodernity we have become credulous toward this grand narrative to the extent that it has been interiorized (in Sloterdijk's sense) and normalized to the point of invisibility. Networked computers have been central to this, as we will see. Computing has also been central to the evolution of the globalization process and the shift to postmodernity that it represents. In our credulity, however, we have become correspondingly less reflective. The fundamentally important economic and socio-political processes of globalization have thus become routinized, banalized, hollowed out and all-encompassing.

The Internet is the medium that is also the message for this new invisible grand narrative. And, the Internet itself is nearing its perceptual vanishing point; a normal, everyday backdrop to almost everything we do in daily life. Nevertheless, understanding the transformation of the world through money and movement in our networked lives is vital to an appreciation of how our lives are repositioned within time and space. Here, I want to concentrate on the temporal aspect of this positioning because in networked society, our new relationship with time is the one least understood (Thrift and May, 2002: 1–47). Yet, it is the temporal relationship that has the most potential to damage us as self-reflecting and self-regulating beings, able to individually and collectively transform the world in accordance with democratic values.

Computer based acceleration is at the heart of what has been termed the financialization of the world capitalist system, a relatively new manifestation of a networked global system. Marx did not fully theorize finance capital, so focused was he on its material and industrial forms. This fell to Lenin in his 1916 pamphlet, *Imperialism, the Highest Stage of Capitalism*. Marx did articulate, however, the growing importance of money being exchanged solely for money (M–M), and emphasized this circuit as an extreme form of the commodity fetish. The power of banks constituted, even in his day, a "semi-state" where "tokens of value", or "fictitious capital" or simply phantom amounts of money that were not anchored to precious metal or commodities or material assets, could be created and profits derived therefrom (Marx, 1991: 674). However, it was Robert Brenner who more fully analyzed the financialization process as a form of post-imperialist expansion, or what we now term globalization, a process beginning in the late 1970s. As this circuit of money began to grow in overall systemic importance, what Brenner termed the "non-manufacturing" sphere of profit making, began to rely increasingly on computerized models of profit-making products that had an ever-diminishing connection with the material world (Brenner, 1998: 230). And so in a truly global marketplace where "money begets money", as Marx had phrased it, what constituted reality would be whatever increasingly sophisticated algorithms, old-fashioned speculation and bubble-inflating imagined it to be. Today, information is the predominant super-commodity—one that goes beyond the mere fetish to become the grand narrative of speed and efficiency that drives the construction of a virtual reality through networked communication (which at the same time helps to shape our physical and material reality).

It is clear that the power of money and pure movement—or what Bill Gates (1995) once hopefully termed "friction free capitalism", came together in the Internet. The Internet as we know it today is the result of what Dan Schiller (2000) terms "digital capitalism", a hijacking by private interests of a publicly funded

and developed technology which began in the USA during the 1980s. Subsequently, this helped create a financial power far in excess of anything seen previously. It was also the basis for profit-seeking search engine and social media platforms such as Google and Facebook.

Capitalism, information technology, and temporal acceleration

As many perplexed economic analysts found to their surprise in the wake of the global financial crisis of late 2008, old-fashioned political economy still had something to tell us about the way of the world. Not surprisingly, Marx and Engels' relatively brief *Communist Manifesto* attracted the bulk of the attention of economic pundits and media commentary. For example, in 2009, as the flimsy economic scenery was collapsing all around, the *London Evening Standard* carried an article entitled *Was Marx Right All Along?* After routinely ignoring Engels who co-wrote the pamphlet, the *Standard's* contributor, Francis Wheen, went on to quote from the *Manifesto*, singling out the "sibylline warning" that they penned in 1848 to the effect that "all that is solid melts into air". And so did it seem in those fear-filled days immediately following Wall Street's near insolvency. Wealth, much of it fictitious and equating to trillions of dollars, simply evaporated as stocks fell, banking exposures spiraled, and consumer confidence dissolved.

Any political economy lessons taken from these Victorian prophets on the boom and bust nature of capitalism have been evanescent, however. Marx is once again passé, and Engels doubly obscure. Rather more durable and predictable in the business media, in government departments and in free-market think tanks, has been the mantra (as opposed to prophecy) that more efficient business practices will guide us back on the road to boomtown.

It was in this back-to-business-as-usual climate that the British Prime Minister, Gordon Brown, reminded the assembled members of the crisis-gripped G20 countries in 2009 that "We should not retreat from the idea that we can solve these [economic] problems and still believe in the idea of an open, free market [and a] flexible, inclusive and sustainable globalization" (Voice of America, 2009). The previous year, Viviane Reding, European Commissioner for Information Society and Media, had already worked out the need for more efficiency and saw information technologies as the economic liberator and solution to the crises. She insisted to a high-level forum that "ICTs provide [the] vital tools to recover from the . . . economic slowdown" (Reding, 2009: 2). Under capitalism, the slow must always be met head on by the fast and the efficient. It was a lesson that Goldman Sachs, an investment firm at the center of the economic meltdown in 2008, did not need to be given again. Soon after the initial collapse, and after accepting US government bailout money, Goldman Sachs returned to profitability and gave the money back. How did they do it? Well, the company is not saying, and it is being circumspect for some high-tech commercial reasons. Goldman Sachs is one of the leading developers of secret algorithms that analyze in real time the arbitrage movements of stock prices, where they buy and sell in millions of split-second transactions (Hassan, 2011). Half the trade in the New York Stock Exchange is conducted in this autonomous, computer-driven way, but for the moment, Goldman Sachs, with its deep industry influence and its expensive mix of "mega-smarts and megabytes", is able to make a profit by being first and fastest (Guy, 2009: 24).

This represented a quick return of the axiom from neoliberal economics that efficiency (speed), and whatever it takes to achieve this, is the only way to become profitable. This is indeed the rationale of capitalism, with only the narrative of the machine being supplanted by that of information. But what is the logic that underpins it? If we do return to Marx and Engels, and flip through the *Manifesto*, we will not learn much more than that capitalism is creative, destructive, and immanently expansionary (it still nevertheless reads as a vivid illustration of present-day globalization). However, to think about the logic that drives the need for speed, and therefore the logic of the Internet itself, we need to go to Marx himself, and to where the traders, post-crash pundits, various bloggers and article writers do not venture—Volume 1 of *Capital*. Here, Marx gets to the key issue, the central driving force behind the capitalist mode—which is competition. Now, there is nothing new here, except to say that the centrality of competition (at least since the 1970s) has become a naturalized backdrop to life, so much so that we no longer consider the dynamic as in any way

special, much less as generating specific economic, socio-political and temporal effects. But if we dig deeper than the *Manifesto*, we begin to understand why the Internet is as it is, and what this means from a more critical (and temporal) perspective.

In *Capital* Marx tells us that:

> Technology discloses man's mode of dealing with Nature, the process of production by which he sustains his life, and thereby also lays bare the mode of formation of his social relations, and of the mental conceptions that flow from them (Marx, 1976: 406).

Under capitalism, competition is expressed through technology and technological innovation. But why, then, do capitalists compete? Again, nothing new here except that there is value in restating the answer in this particular context—competition is not due to any neoliberal emancipation of an individual free will as Hayek (1994) or Milton Friedman (1962) might suggest. Capitalists compete because the logic of capital compels them to. In *Capital*, Marx breaks down the process sociologically and through a critique of contemporaneous political economy. He tells us that it is not possible for the capitalist to simply continue to draw profit, no matter how good or useful or cheap the thing produced may be. The liberal marketplace (bitterly fought for in the 18th century in Britain) ensured that success for one is something that others are legally free to try to emulate (see Gray, 1995). In simple terms, if someone sees that you are becoming rich producing this or that commodity, there is a strong economic motivation (and the political space) for them to try to do likewise. This is simple competition, but it forces producers (beginning with those at the core of the early industrial revolution) to be constantly thinking of new ways to manufacture more efficiently, more cheaply, in more quantity—and faster. And so a part of any profit must be invested back into the mode of production, to find ways to innovate and expand. Forced competition, and the techno-logic that arises from it, becomes the basis upon which we organize the world, and the lens through which we perceive the social world.

Temporality (or the social relationship to time) is at the center of commodity production and the competition that propels it. Turning to Marx again, this time in the *Grundrisse*, we find the following observation:

> Every commodity (product or instrument of production) is = to the objectification of a given amount of labour time. Their value, the relation in which they are exchanged against other commodities, or other commodities against them, is = to the quantity of labor time realized in them (Marx, 1973: 140).

Speed of operation (constantly improved by technological innovation) is thus revealed as central to the Nirvana of efficiency. Marx develops this point elsewhere in *Grundrisse*:

> …in as much as the circuits which capital travels in order to go from one of these forms into the other constitute sections of circulation, and these sections are travelled in specific *amounts of time* (even spatial distance reduces itself to time; the important thing e.g. is not the markets distance in space, but the speed—the amount of time—with which it can be reached), by that much the velocity of circulation, the *time* in which it is accomplished, is a determinant of how many products can be produced in a given period of time; how often capital can be realized in a given period of time, how often it can *reproduce* and *multiply* its value (Marx, 1973: 115, emphasis added).

Competition means more than speed; it means ongoing and open-ended acceleration. I want here to briefly and clearly define what I mean by this term. Acceleration is the operation of an open-ended continuum of speed, driven primarily by economic and technological competition, with no regard to its social effect in the pursuit of a nebulous efficiency across every register of economic and social life, whether it is warranted or not. The rate of this acceleration is going to vary from historical period to historical period. However, the key determinants for the relative speed of capitalism are politics, the balance of economic power, and the

level of technological sophistication at any given period of time (Hassan, 2009, 2011). Beginning in the 18th century, this capital-technology-politics nexus produced a mode of production and a temporal rhythm of production underscored by the clock. This was, according to Lewis Mumford, the most important technology of the industrial revolution (Mumford, 1967: 14). It was a temporal logic that evolved and accelerated in the context of the machine and in the culture of the machine. This broad technological culture is also known by the rather empty signifier that is its common usage—modernity.

However, our neoliberal globalized world has, over the last generation, created different productive processes where the functioning determinants are no longer based upon the innately limited logic and rhythm of the machine, but on the computer. The computer is, as David J. Bolter argues, the "defining technology" of the post-modern age (1984: 8–12). The transition to this new world has been an essentially political and technological response to economic crises. This has been a tumultuous and immensely consequential history which cannot be examined here, but it does have its own growing literature (see for example, Dicken 2007; Fuchs, 2014; Harvey, 1989, 2005; Jessop, 2007). The salient theme running through these perspectives on the shift to neoliberalism is a radical "time-space compression" whereby, as David Harvey puts it, we are "forced to alter, sometimes in quite radical ways, how we represent the world to ourselves" (Harvey, 1989: 240).

Bolter's "defining technology" has, moreover, taken a yet more defining (and more rapid) evolutionary trajectory since the publication of his book—it has become networked. Through the networking of computer processing power, and through the pervasion of networks throughout every register of economy, culture, and society, a new temporality affects the human relationship with time. This is a temporality that is beyond machine and clock and stems from the digital determinants of the computer in its networked form. It is a form of "network time" (Hassan, 2003) where speed through cyberspace creates something approaching real time. Thus, experience of time is enfolded within a rhythm and a meter that are open-ended and go far beyond the technological constraints of machine and clock. Under the aegis of neoliberalism, capitalism has been structurally re-engineered so that speed can make productive processes more efficient and oriented towards profitability. What has been missing in many accounts of this process, however, is the human dimension with regard to the temporality. People, it is largely (and unthinkingly) expected, must welcome and then adapt to and synchronize with the new reality where networks and the Internet become the dominant interfaces with economy, culture and society.

The human and political effects of social acceleration through the Internet

In a neoliberal-dominated context where speed, and the super-commodity of information seems to be necessary and progressive, ideas on what might be termed the "pathologies of speed" are rather difficult to make salient. This is doubly so, given the relative paucity of work being done on a social theory of time, notwithstanding some important formative breakthroughs in this area (see for example, Adam, 1998, 2004; Rosa, 2013; Scheuerman, 2004; Virilio, 1995). We still need to ask: Why should it be argued that speed has a social effect? On a generalized level this proposal is fairly obvious. Increasing the speed at which one drives a car, for example, becomes a correspondingly dangerous practice. And Paul Virilio (1991) made the rather simple but profound observation, through his dromological law, that by increasing speed on roads, or in the digital highways of the network, or wherever, the consequent chance of gridlock also increases. The social effects of speed have been engaged with at a more popular level, moreover, for example in James Gleick's 2000 book *Faster: The Acceleration of Just About Everything*, where he writes that the logic of speed is now all pervasive and "unoccupied time is vanishing" (Gleick, 2000: 10).

From works such as those just cited, and others, the social relation that humans have with technology under neoliberalism has been seen to render individuals, societies and their institutions vulnerable to the imperatives of speed and network time. These imperatives stem from the all-pervasive Internet and the

network society that it has helped spawn. They tell us little, however, about the nature of the social pathologies of social acceleration. We need to know how and why they emerge, and why they cripple the individual, especially as a political being, and why they thwart the collective prospects of democratic political change. In order to consider this we need to review and build upon the phenomenological approach to time that comes to us from Husserl, Bergson, and Heidegger. The concept of clock time as displacing the individual and cultural time of experience has by now a long and useful literature, which I have written about elsewhere (Hassan, 2009). I want to build upon this insight in order to see more clearly the specifically political consequences of technologically induced social acceleration.

I will begin this part of the article by introducing some recent work from media archaeology. By adapting the work of computer theorist Charles Petzold, Silvia Estévez makes a valuable intervention by reminding us that in radical contrast to the digital ecology that increasingly shapes our lives, we humans are in fact analog beings. Moreover, the machines and devices that made the industrial revolution, and sustained its cultural and political modernity, were themselves analog in that they were "analogous" to the organic, unfolding and durational processes in the pre-industrial world "whose operations simulated processes that people had seen in nature and in the functioning of their own bodies" (Estévez, 2009: 401). Industrial age machines were analogous in this respect in that the automobile, for example, was a reflection of the horse, or the steam engine replicated and surpassed the power of a bullock, or the airplane was mirrored in nature by the bird, and so on. Estévez goes on to note that such defining machines as automobiles, steam engines, and airplanes express human-machine "activity [that] crosses time and space in a visible way that allows us to grasp the link between a movement and its effect, the process, the continuity" (Estévez, 2009: 402–403). Digital machines are a radically different technology. And as analog beings that use digital machines, "we cannot see the continuity of movement crossing space and time to produce an effect…they do not function like something we can recognize in nature…" (Estévez, 2009: 402). What Arnold Gehlen termed the "circle of action" (*handlungskreis*) (Gehlen, 1980: 14), which expressed our ancient adaptation to tool use and which kept us linked with nature and in a kind of synchrony with its rhythms, is lost in the digital encounter. What is lost is beautifully illustrated by Peter Gullers, a photographer, who reflects upon the circle of action he experiences between the environment and himself, with the analog camera being a replication of the human eye:

> When faced with a concrete situation that I have to assess, I observe a number of different factors that affect the quality of light and thus the results of my photography. Is it summer or winter, is it morning or evening? Is the sun breaking through a screen of cloud or am I in semi-shadow under a leafy tree? Are the parts of the subject in deep shadow and the rest in bright sunlight. . . In the same way I gather impressions from other situations and other environments. In a new situation, I recall similar situations and environments that I have encountered earlier. They act as comparisons and as association material and my previous perceptions, mistakes and experiences provide the basis for my judgment. It is not only the memories of the actual practice of photography that play a part. The hours spent in the darkroom developing the film, my curiosity about the results, the arduous work of re-creating the reality and graphic worlds of the picture are also among my memories. . . All of the memories and experiences that are stored away over the years only partly penetrate my consciousness when I make a judgment on the light conditions. The thumb and index finger of my right hand turn the camera's exposure knob to a setting that "feels right" while my left hand adjusts the filter ring. This process is almost automatic (as cited in Rochlin, 1997: 67–68).

The ubiquitous digital camera has of course rendered much of these analog dialectical interactions redundant, an unanticipated but disastrous consequence of neoliberal efficiency where time need no longer be wasted on such forms of being in the technological world.

Nancy Munn, in her now classic essay on the cultural anthropology of time, observes how analogue clock time, beginning with 18th century industrialization, became "concretized in experience reaching into the body to fuse with body time", which together "cohere with the wider cosmic order of industry, science, and [analog] technology" (Munn, 1992: 111). If we consider the body as analog and, further, accept that humans built technologies that simulated the processes they saw in nature and the body, then the clock was analog to a mechanical universe that humans could recognize in nature's cycles and in the observed rhythms of the stars and planets in the skies above their heads (this was made explicit by Isaac Newton). As Thompson (1993) and others have argued, the mechanical time of the clock (with its pointing hands) ordered and scheduled modernizing societies, but it also, as Munn notes, conferred a kind of freedom that allowed for the production of the individual self as a modern reflexive being as well for the as the production of the material world that was the basis of that world's own dynamic and unfolding modernity (see Berman, 1982). Munn quotes Maurice Merleau-Ponty, who recognized the particular relationship between analogical human and machine: "it is of the essence of [sociocultural-political] time to be in process of self-production, and not to be; never that is, to be completely constituted" (Munn, 1992: 111). In the original, his *Phenomenology of Perception*, Merleau-Ponty prefaced this, writing: "There can be time only if it is not completely deployed, only provided that past, present and future do not all three have their being in the same sense" (Merleau-Ponty, 1979: 369). In other words, time cannot be timeless, or instantaneous or total; it cannot exist without its durational unfolding through past, present and future.

Clock time could never be completely deployed because it was analog, like humans, and unfolded in time through past, present and future. Humans were more-or-less at home in the time of the clock; it rationalized their body time and this lent itself easily to the dynamics of capital, as we have seen. But this "time discipline", as Nigel Thrift (1996: 193) termed it, contained potential, or latencies, whereby humans with their new-found power over nature and the material world through industrialization, could build on Enlightenment conceptions of freedom and democracy. The clock, in other words, created the indispensable time and rhythms of democracy, and humans could flourish as moderns in the clock-entimed rhythms of capitalism.

Networked digital machines produce network time. This is a time that approaches the fully deployed time that the analog clock could never achieve, because competition drives it toward the real-time present into which the past and future are becoming compressed. By so doing, network time erases the basis for Enlightenment concepts of freedom and for the political projects of modernity. However, network time, as I have argued elsewhere, is not total or monolithic, as is the case with Castells' notion of "timeless time" (Hassan, 2003). Rather, network time exists at one end of a continuum with clock time at the other. Within this continuum, the clock, though diminished in importance in the network society, still functions as a *basso continuo* to analog life, although this is harder to discern through the commotion of networked digital life. The time of the clock is unchanging and reliable, but it is increasingly faint. The time of the network, alternatively, created and made captive by the logic of capital, functions at the open-ended side of the continuum, with its accelerative force limited only by levels of technological sophistication and by innovation in science and technology. Network time leaps onwards at breakneck speed, whereas our understanding of philosophy or ethics or indeed politics, has gotten little beyond what Classical Greece left for us (Gray, 2013).

Classical Greece did bequeath to us, however, the blueprint for a form of politics that modernity eventually made possible. But the human and analog time upon which both politics and modernity were based are being displaced by a digital time, which as Petzold (1999) noted, is the form of time to which we must now "accommodate" because it is seen as productive time and efficient time (Petzold, 1999: 365). This is a form of time and a logic of time that we analogs have nothing in common with. The Internet is at the center of this new digital-temporal relationship. We are intimately enmeshed within its networks of virtual space and network time, yet it is something completely alien to us. This environment is something which we cannot anywhere recognize in nature. The question is, then, if we cannot recognize ourselves in networked

life, then how can we construct a democratic politics? How can digital democracy be something that might be constituted in our future when the analog world that made democracy thinkable and possible is being made marginal by the always-faster exigencies of digital capitalism?

To answer this question, we need to consider the Internet and its open-ended and ungoverned acceleration as a political problem. Up to this point, those who see social acceleration as a problem tend to frame it in individualist terms, something that we need to tackle through moderation in our networked lives. We must use the mobile phone less and switch off the email function regularly, to stop ourselves being distracted by the network engineering that is set up precisely to distract us (see Anderson, 2009; Honore, 2004). John Tomlinson, in his *The Culture of Speed* (2007), is one who does see acceleration as a general political (and ontological problem), whereby the negative effects are more than the sum of the individualist parts. However, he, too, cannot see beyond the individual as the only viable basis for political agency, and what he terms "deceleration" is held to begin (and end) with the individual through what he terms, rather anodynely, as "balance" whose reward is "poise" (Tomlinson, 2007: 159). Disappointingly, Tomlinson's solution is yet another version of "adapt or die" where if we are successful the best we (as individuals) can hope for is to be "nimble and graceful life performers" (Tomlinson, 2007: 159). It is necessary—and it is time—to go beyond the limits of this reasoning to think about what the Internet as a political problem actually portends. And, as I have tried to argue in this article, we need to think about the political problem as being also a temporal one which can open up fresh vistas.

A Temporalized Internet?

To recap—the contemporary condition may be seen as deriving from three separate but related processes that have emerged over the last generation. First is a serious under-appreciation of the nature and role of temporality, both as a lived experience and as a technologically produced rhythm; second is the autonomous power of ICT development and the effect on the individual experience of temporality and on the temporal rhythms of society more broadly; third is the role that neoliberal globalization has played in the shaping of the Internet and its growing domination as the key technological (and political) power in our age. What to do about these processes is of course an immensely difficult challenge that we can only make tentative gestures toward here. In what follows, I will outline a politico-temporal conception of network life which should inform our thinking about individual and collective agency.

The social acceleration that is the effect of the networking logic must be seen for what it is: a speed-up of the physical and cognitive functioning of individuals as a direct response to the demands of capitalist competition that have shifted decisively to the realm of information flows. The networking of the global economy is generally viewed as a mark of progress and efficiency, but open-ended acceleration of digital processes is unprecedented in the temporal sense. It is taking cultures, societies and their institutions into realms of speed that they have no time to adapt to, and are ill equipped to synchronize with. People in their individual lives suffer from the tightening grip of the "time-squeeze" (Southerton et al., 2001: 2). Furthermore, institutions (for my purposes, political institutions) are unable to fulfill their democratic responsibilities because only executive power is enhanced by the imperatives of speed (Scheuerman, 2004). Our assumptions regarding time must be reassessed in the context of the Internet society. These assumptions, to the extent that we give them any thought at all, are based upon those of an analog world of human-machine and print culture. These once (relatively) unproblematic assumptions have allowed us, since beginning in the 18th century, to relegate mechanical time-rhythm to the barely considered backdrop of social and cultural and economic life. Our mental conceptions reflect this rhythm, and our social and political institutions synchronize with it (Adam, 2004). The objective context for these assumptions has changed, and so too, therefore, must our mental conceptions regarding the temporal reality of the world.

A crucial strategy for transforming our worldview is to make temporality more salient in our lives by regarding it as sovereign. So what is meant here by what I will call 'temporal sovereignty'? The phenomenological approach argues that time is individually experienced and socially produced—and that

technologies such as the clock and the network have had the effect of commodifying and abstracting the experience of time. As Heidegger phrased it (succinctly for once) "there is no time without man" (1972: 16). We experience and create time in differing ways through differing contexts, but technology gives these contexts the patterns and rhythms upon which specific forms of society can be erected. Time, then, at its deepest level, is in us; we do not exist in time, but technology orders and organizes it as a mechanical form of time reckoning, towards specific social and political ends (Flaherty, 2010; Thompson, 1993). If time is within us then it follows that it belongs to us in some sense, too. This is the idea that needs to be developed if we are to temporalize politics and temporalize democracy—and temporalize the Internet.

Accepting the concept of time sovereignty means that we are halfway there already. We see it in our ready acceptance of the sovereignty of space, which in the modern period at least, has its origins in the Treaty of Westphalia of 1648. Here space (or political territory) was codified as sovereign in the sense that a given space inhered to itself an ultimate authority. This authority extended over that space (and through time). We see this concept too in the idea of personal space where the body is judged sovereign and rendered by human rights law as inviolable. However, this easily understood idea of sovereignty does not translate so well to the temporal (Bartelson, 1995). This is due in no small measure to our alienation from time (for all the reasons already outlined) by the technologies of clock time and the computer network within capitalism. But space and time are coextensive; one cannot exist without the other and both are individually experienced and socially produced (Lefebvre, 1992; Massey, 1994). And so the recognition of time as sovereign in the individual would be a political step of momentous consequence. The time that is sequestered by the capitalist mode of production as value, where it is treated first and only as an economic resource, could instead be seen to be, as Michael Flaherty sees it, a human essence and a form of human agency (Flaherty, 2010). Agency connotes power and power is the human fabric of politics.

Making temporality more salient, and coming to view it more as a social relation and a social creation that may be conceived of as a sovereign realm of human capacity and potential, would allow us to question the technological mediation of time. Humans, we would come to realize, have limitations that technologies do not. Computer Science, especially, has a long history, from Gottfried Leibniz to Charles Babbage, from Norbert Weiner to Licklider, of viewing humans as error prone subjectivities that are correctable by computers. However, the instrumental-rational logic of the Internet drives it on ever faster, to the point where people are unable to be corrected or made more efficient through synchronizing with its rhythms. The speed of the Internet as an element that inhabits every register of culture and society will thus be revealed for what it actually is—a speed that is powered through capitalist competition and commodification, whose effects are not always oriented toward human needs (Schiller, 2011). Jacques Ellul wrote as long ago as 1964 in his *The Technological Society* that "Technique has become autonomous; it has fashioned an omnivorous world, obeys its own laws and has renounced all tradition" (Ellul, 1964: 14). Neoliberal capitalist competition gave technology its autonomy; free market neoliberalism made available the entire world as its developmental play space. Through a more critical-rational understanding of time, the Internet, as a reflection of omnivorous autonomy, could be identified as temporally destructive and steps could be taken to pull its developmental trajectory back into some form of democratic accountability. But how can this happen, especially if the institutions of democracy have been so diminished by technologically powered social acceleration? This brings me to my final point.

An initial task in creating a more authentic and diverse relationship with temporality in our networked society is, perhaps counter-intuitively, to argue for a local and global regulation of the Internet. Talk of regulating the Internet has been ongoing since its inception, of course, but this has been couched in primarily negative terms as a restriction of free-trade by business interests (for example, Dyson, 1997), and a curbing of free-speech from the cyber libertarians (e.g. Sunstein, 2001). Democratically constituted regulation, however, is positive. It is politics on the front foot, and a use of political power that is oriented towards social ends. We often forget, indeed, that this is the unavoidable responsibility of liberal democratic institutions. The means are already in place, with only the political will missing. That is to say, globalization

has created political bodies that could function locally and globally in tandem to create a cohesive regulatory framework for the Internet. For example, in 2005, the United Nations convened a second phase meeting of the World Summit on the Information Society (WSIS) to plan strategies that would express the world community's "common desire and commitment to build a people-centered, inclusive and development-oriented Information Society" (International Telecommunication Union (ITU), 2013: para. 1). Six years later, the ITU published *Success Stories,* which highlighted the notable projects around the world that had benefited from the WSIS's commitment to information technology dissemination (ITU, 2013). The publication is full of success stories where ICTs have been introduced into a range of developed and developing contexts, from South Korea to Mali, to improve the lives of many people. However, in every successful case, the logic and measure governing the application of ICTs is one of a business orientation toward efficiency. This is predictable, as this is the discourse that drives the Internet, as we have seen. The point is that WSIS and the UN can be effective; they can deploy ICTs across a wide variety of social contexts. Moreover, regional-level political bodies, such as the European Commission for the Digital Agenda and the national-level ministries and bureaucracies that exist in almost every country, potentially have the same capabilities if they are given (or if they take) a political lead.

To argue for regulation of the Internet in order to render its temporal rhythms more amenable to the actual lives of people, and to make it more people-centered, is important. But to reflect upon the kind of Internet we want is also a political responsibility and it should take place in the appropriate forums, with perspectives being as diverse and inclusive as possible. There can be no *a priori* prescriptions for our Internet future, not least from theorists who would presume to speak for the hundreds of millions who find their temporal lives stretched over the space-time of the Internet to an increasingly stressful degree. But theorists, too, have a responsibility—and that is to imagine and construct the mental conceptions that may (or may not) flow from the material (and immaterial) reality that computer technology has created.

The Internet, the backbone of the network society, is a vast, ascendant and singular entity. This is so because it has been largely left to develop through a deregulated approach wherein market power decides on its shape and logic. This logic recognizes no borders, and only the currently prevailing level of technological sophistication limits its speed. As a commodified space, it makes economic sense to have it integrally interconnected; it is a logic that has allowed Google, for example, to become what it is today. A neoliberal deregulatory approach, in other words, inevitably meant that the Internet would be the basis for a global digital capitalism (Schiller, 2000). A move toward a social democratic regulatory environment that is armed with a vision of a social and temporal Internet (in addition to the largely economic one that exists now) would, I think, be able to bring about another revolution in what information technologies are able to achieve. This might be termed a new "morphology", to borrow Castells' term (1996: 469), which is based upon critical-rational principles as well as instrumental-rational ones.

This need not be a zero-sum outcome for neoliberal capitalism. If a mental conception that includes recognition of the importance of time were developed in policy formation, then the interests of capital and those of temporal freedom need not be mutually exclusive. They could have separate though mutually-influencing realms: a social Internet and a business one; an Internet of two interactive spheres whose temporalities are in synchrony with their own economic and social needs. Social scientific insights into the nature of full-throttle acceleration (and how it is self-defeating as an economic strategy on the Internet) could be used by business to make the commercial Internet experience more efficient and productive. In actuality, the business skills involved in the dynamic design of software and hardware that help create the sophisticated Internet experience could be used to make the social Internet a more attractive realm for users. To re-order the development of the Internet in a way that would provide actual choice would be to enhance both the social and the business Internet. Citizens and consumers would have a clear sense of which space they wished to inhabit, when, and why. One can think of television as an analogy; at the press of a button one could change between Internets and use each for whichever task or experience is required. It could be a rational, logical and temporally controllable experience—in contrast to the constant threat of being frazzled

and info-whelmed as is currently the case (Anderson, 2009). A two channel Internet could, conceivably, slowdown of its own accord if businesses began to recognize that a too-fast Internet driven by a too-fast global economy, which drives an unsustainable social acceleration is actually, counterproductive. People as users, citizens and consumers could gain an unprecedented form of temporal sovereignty that would inform technological agency. This, in turn, would promote a more realizable form of digital citizenship (see Dutton and Peltu, 2007). We would then have choice, when we currently have none.

The foregoing is speculative, but it is not fantastical. The response by certain political leaders to the Global Financial Crises of 2008 shows that political will can be mustered when necessary. Government must govern because it is their duty to do so. The crisis of 2008 required the G20 to pour trillions of phantom dollars into a disintegrating financial system to prop it up. The positive social effects of this have so far been negligible, and governments are still "held to ransom" by financial markets and global corporate power (Phillips, 2011: 18), which are themselves in thrall to the speed economy of neoliberal capitalism. The money that was created and then wasted in this corporate welfare is far greater than would be required for a global-social reengineering of the world's dominant form of communication.

Neoliberal globalization has brought humanity to this point of informational crisis, but it has also created the shell of proto-democratic structures that could serve as the basis for a social democratic renewal at a globally networked scale (Hassan, 2011). I have already referred to existing examples, such as the UN-sponsored WSIS. Moreover, the network society has extant pathways (platforms and communicative structures) that could be replicated and made expressive of grassroots politics in a social Internet. There is, for example, a great deal of industry-promoted hype around social networking that disguises the fact that it is anti-social, and wholly commercial. But the popularity of Facebook and the like, shows that people will move *en mass* to communicate and socialize, especially if it is free and relatively easy. A social Internet could tap into that "species essence" of sociality, as Marx termed it, to engage hundreds of millions in local public spheres and the global public sphere. The large-scale pretense of social media being somehow social could then be dropped in exchange for something more real; and commercial communicative platforms could thus be free to innovate in order to attract people to them in ways that are more transparent. Google, too, might then be free to abandon the façade of being a new kind of business—some kind of progressive culture-building that blends the social and the commercial into a positive holistic experience. Alternatively, a social search engine where algorithms are used for actual relevance instead of functioning as a highly sophisticated marketing tool would make people's experience of the Internet more relevant to their needs at the time. This would also pop the "filter bubble" whereby Google's algorithms construct and tailor the Internet experience to what the computer's logic decides best suits you as a consumer (Pariser, 2011).

All this would require money and political will. But these are secondary steps. The primary step is a revolution in our mental conceptions concerning the vital importance of temporality to the individual, and to culture, economy and polity. This is necessary not least because of the new relationship with technologically mediated temporality that the age of the network society has brought. That the acceleration of the economy and the Internet has negative consequences has to now be recognized before it becomes too late. If not, we will inhabit a world of digital dementia in which we no longer remember how it once was, and in which there are no other ways of seeing or being. In this scenario, one cannot reflect on the fact that we are unchangingly analogue creatures, trapped in a digital "world interior of capital". Uncontrolled acceleration is bad for people, bad for economies, and bad for our conceptions of democracy.

In an otherwise plodding and unsatisfying book, Francis Fukuyama, in his *The Origins of Political Order*, makes an insightful point that is not made often enough. On the point of "political decay", Fukuyama notes that:

> Political institutions develop, often slowly and painfully, over time, as human societies strive to organize themselves to master their environments. But political decay occurs when political systems fail to adjust to changing circumstances. There is something like a law of the conservation of institutions. Human beings are rule following animals by nature; they are born

> to conform to the social norms they see around them, and they entrench those rules often with transcendent meaning and value. When the surrounding environment changes and challenges arise, there is often a disjunction between existing institutions and present needs (Fukuyama, 2011: 7).

This particular point was not written with temporality in mind, yet it is inescapably there. The politics of liberal democracy grew organically and analogically to reflect the machine, clock and print cultures of the 18th century. Yet the *philosophes* chose to imbue it with a timelessness, a rhythm that seemed to be perfect and applicable for all time. The temporal environment has changed dramatically over the last generation. The "disjunction" that Fukuyama notes, is in fact a temporal desynchronization between the Internet and the political sphere. The first task, a political and economic one, is therefore to recognize the centrality of time in our lives. We must recognize the sovereignty of temporal experience, and realize how this has been largely been neglected throughout the period of modernity. We should recognize, too, that the rise of the Internet, the formative technique of our postmodernity, has made the temporal features of culture, society and politics a pressing concern. Complaisance, if not digital dementia, is hardly an option any longer. If we allow desynchronization to become entrenched then the decay of politics that Fukuyama sees as a periodic problem, one that may be addressed when necessary, will have become an irretrievably lost problem. We will no longer have the temporal capacities for adequate reflection and analysis in a fast moving, Internet dominated world that simply overwhelms us with speed, volume and the pervasiveness of its logic.

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