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Source: *Pacific Journal* 7 (2012): 77-89.

Publisher: Fresno Pacific University.

Stable URL: <http://hdl.handle.net/11418/532>

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The Devices of Time

TIMOTHY HAYDOCK

Introduction

One of the most common experiences of time is that of checking the time. It is a basic component of modern human life, to look, or ask, for the time. In fact, many a tourist has learned some variation of “what is the time?” in foreign languages, the world over. In this article, I suggest that we follow the example of Lewis Mumford, who is described as “not the sort of a man who looks at a clock merely to see what time it is,” but in order to see what that “clock creates.”¹ If Neil Postman is right in saying that “the introduction into a culture of a technique such as...a clock is not merely an extension of man’s power to bind time but a transformation of his way of thinking- and, of course, of the content of his culture,”² then our full attention should be given to these seemingly mundane instances of finding out the time.

It should come as no surprise that our societies are shaped and determined by the technological choices humans make. It is our inventions that shape our habits. Winston Churchill alluded as much when he famously noted that “We shape our buildings; thereafter they shape us.” This sentiment was confirmed and broadened by Marshall McLuhan, and other technological theorists, to include not just our buildings and their determined environments, but other objects as well; indeed, once we shape our tools they then shape us. The very ethos of a society, the values and stories, are communicated and determined by their machines, by their devices. All of “Western Civilization [has] been profoundly modified by the development of the machine,”³ therefore to “understand the machine is not merely a first step toward re-orienting our civilization: it is also a means toward understanding society and toward knowing ourselves.”⁴ It is devices of various sorts that continue to drive the very meaning and organization of our societies and determine how we see our own human identities in the midst of the technological world. Interrogating the machines and devices that we once shaped, but that now shape our own existence, then, is a must. Now

we turn to the devices of time, for “the clock, not the steam-engine, is the key machine of the modern industrial age... no other machine is so ubiquitous”⁵ in order to examine the impact of these machines so that we may understand society better and know ourselves more fully.

Tracing the history of devices that measure and announce time leads directly to the heart of the cultural value of labor. In “the Middle Ages the communal clock extended by the bell permitted high coordination of the energies of small communities” and this was extended during the Renaissance, as clocks enabled “social organization almost to a national scale.”⁶ In the nineteenth century, the mechanical clock, “provided a technology of cohesion that was inseparable from industry and transport.”⁷ There was nothing more important for labor than to follow the ancient maxim to get “a thousand slaves to act as one man.”⁸ Nothing guaranteed the synchronized movements of the masses like the clock, first communal and then individualized, governing over the lives of all working people. From this beginning, the clock has become digital and is now found most prominently in the postmodern pocket watch, the smartphone.⁹

This article will trace the development of the time-telling devices in relationship to labor practices¹⁰ and explore the consequences for society and individuals. The mechanical clock creates and enforces a heterogeneous demarcation of time that encourages homogenous individuals constituted by their relation to labor, differentiated to personal life. By contrast, the smartphone homogenizes time while providing the opportunity for heterogeneous expressions of agency by conflating experiences of labor and personal life.

The Beginning of Time

Though the legend that the clock first developed in a monastery has been proven untrue, measuring time did find a special home inside those sacred spaces of ritual and order, where, “the new mechanical conception of time arose in part out of the routine of the monastery.”¹¹ This construction of the new understanding of time is what concerns us first. As hours were created out of nothing in the thirteenth century, the minute and second in the seventeenth

century, their creation was driven by a technological advancement, the clock. These measures of time are not natural occurrences, but, rather, the “product” of clocks, the result of a device.¹²

As with all things, these advances did not actually happen in a vacuum, *ex nihilo*. There were circumstances and contexts that made possible these developments. The clock, its standards of time, its concept of work and the “official recognition and proclamation by the state were the result of a long class struggle.”¹³ The material conditions of a burgeoning capitalist interest in pursuing surplus profit drove the invention of a device meant to measure time for labor purposes.¹⁴ In this way, Mumford acknowledges the Benedictines as the founders of modern capitalism; they demanded a habit of order and regulated time sequences in a preview of the mechanical clocks used in the cities in the thirteenth centuries. It is the Benedictines that “helped to give human enterprise the regular collective beat and rhythm of the machine,”¹⁵ that helped to order and regulate time in order to connect it to labor and productivity. The measuring of time arises in a context that is guided by productivity, by order and control, and represents a break from previous human experiences of the passing of time.

This shift in technology and the availability of clocks, determined a correlating shift in how humans understood time. As our conception of time moved from natural rhythms to abstract ordering, “no aspect of life was left untouched by this transformation.” If the clock was “the first manifestation of the new order,”¹⁷ , it was surely an order with all the trappings of a modern, capitalist state.

As time came to be measured, ordered and valued, “abstract time became the new medium of existence.”¹⁸ The clock clearly laid the groundwork for normalized work hours, disconnected from geography, natural cycles, and even human sustenance; thus, it also helped to set the stage for the largest shift in Western history, the shift to modernity and capitalism. If time can be conceptualized, “not as a sequence of experiences, but as a collection of hours, minutes, and seconds, the habits of adding time and saving time come into ex-

istence. Time took on the character of an enclosed space: it could be divided, it could be filled up, it could even be expanded by the invention of labor-saving instruments.”¹⁹ Time became intimately tied to labor and production and the measurement thereof, at the clock’s invention and, eventual, widespread use. The mechanical clock, then, orders time in such a way that time suddenly has varying values, depending on the part of the day the time signifies.

The order and directives embedded within the ordering of time spread from the monastery, “the regular striking of the bells brought a new regularity into the life of the workman and the merchant. The bells of the clock tower almost defined urban existence.”²⁰ The division of labor, at its most basic level, became the clock’s business: opening and closing, lunch and breaks, the shape of the workday, the shape of the very society, was created through the technical use of the clock, through its hours and through its ringing bells. The clock gave us a time that was concerned with demarcation, with dividing and categorizing. Time was divided between work and non-work, a heterogeneous division of time that gave rise to homogenous individuals: the working class.

In the British television series *Downton Abbey*, the most sardonic character, the family’s matriarch and immeasurably venerable Dowager Countess of Grantham, is asked one day by a young lawyer from the city, about the schedule for the weekend. The lawyer is a professional operating in a social world defined and upheld by the aristocratic absence of jobs (much like our own celebutantes). Lady Grantham’s confusion is deliciously telling: “what’s a weekend?” she quips without a hint of irony. Here, “working for the weekend” is most tellingly *for those who work*. There is no workweek for those who have no work. This serves as an even further example that the division of time has been a direct result of labor and capitalist aims, it is for the working-people that these demarcations of hours, minutes and even days, exists.

On an individual level, clocks have made organic bodily functions and rhythms rely upon abstract notions of time. Basic necessary mechanisms like hunger and sleepiness came to be owned by the clock and determined by ordered numbers not derived from any natural occurrence. The body measures

the passing of time in its own way,²¹ but we now only know how to name, and measure, these natural intervals in relation to the discourse of hours, minutes and seconds. Our biological drives now “accommodate themselves to the clock rather than to organic needs.”²² It is the clock as, “a machine that produces uniform seconds, minutes, and hours on an assembly-line pattern. Processed in this uniform way, time is separated from the rhythms of human experience.”²³

Thinking of this phenomenon, we see that our consciousness has now internalized this sense of temporality.²⁴ Time, the abstract notion created for labor purposes, has now become the basis for most of our patterns of being. Therefore, the clock’s system of measuring time is now understood, largely, “as a fact of nature.”²⁵ This is confirmed in the largely fatalistic idioms we have about time.²⁶ Time, created, and subsequently measured, by our device, the clock, encourages a homogenized form of individual existence by reinforcing a standard for valuing time, for measuring and governing bodily functions, and by creating an entire class of people that are constituted by their relationship to a shared clock. For the clock, time is not simply time, but varies in values and expectations.

Our Modern Devices

As the analog world has given way to the digital world, the devices of time have come to reflect, and create, different values.²⁷ Philip Zimbardo, describing the ongoing shift that will come to dominate the future, claims that, “kids don’t wear wrist watches. It’s a single function device.”²⁸ Indeed, more and more of our devices are able to do a wider variety of tasks. The modern, digital age demands “multiplicity, rather than repeatability,”²⁹ diversity over uniformity, and flexibility in the place of standardization. Indeed, this is the age of the smartphone and the smartphone offers a vision of time that is very different from the clock. Here, time is flattened into equal possibilities, homogenized in potential, while individuals are able to encourage greater individualization of time.³⁰

There are now over one billion smartphones in use worldwide³¹ and the number of shipped smartphones exceeded the number of shipped personal

computers in 2011.³² The smartphone has inserted itself squarely in the center of continually digitalized modern life. Smartphones offer more and more access to the Internet, unique apps and functions and provide services that used to be offered in other devices. Cameras, flashlights, newspapers, notebooks, music players, and for our purposes, clocks have all been integrated into a single device that fits into our pocket or purse. In spite of the wisdom that claims that today's "instruments are differentiated as a result of the continually more specialized usage demanded of them,"³³ smartphones continue to add more features, not specializing use but obliterating the need for other devices. Many devices have collapsed into the smartphone. It is often smartphones that serve as our alarms, our calendars, our clocks. The smartphone measures and tells our time; asking the time of a stranger will now often include querying the screen of their chosen mobile device.

This rather boring use of smartphones, the telling of time, belies the power of the smartphone over individuals and contemporary society. Indeed, it is the time-telling task as embedded within the other capabilities of the smartphone that furthers the present conversation. If the mechanical clock was connected to labor through its second and minute hands marking progress and productivity, the smartphone's direct access to white collar working tasks makes it more than the carrier of labor's directive, but the very master. In this age, our tools shape us entirely, not just within the formalized working day, but throughout our tethered days.³⁴ Given "that the technical phenomenon is a constant of human history," we must ask, "is there anything new about its present aspect?"³⁵

The smartphone embodies McLuhan's understanding that the "plurality-of-times succeeds uniformity-of-time"³⁶ but expands this idea beyond his original meaning. On one hand, McLuhan's understanding of time zones and our modern ability to trespass their boundaries at will³⁷ does begin to explain the reality of the smartphone world, but on the other hand it pales in light of the true labor potential that the smartphone provides. The "plurality-of-times" is best understood as the codified existence demanded by the concept of "multi-tasking." This always-on capability of the smartphone is the "change of scale

or pace or pattern that it introduces into human affairs.”³⁸ Smartphones offer the ability to do many things, often while other things are also being done. This plurality-of-times, we will see, is the demand and ability to remain “on” in various forms, from personal to professional, and defines the modern digital era. But, this plurality-of-times is the homogenized background for our use of time and not a free-for-all of unlimited time possibilities. It is not an empty space of potential, but a constructed directive to always be on.

As the smartphone tells our time and dominates as the device *de jour*, it offers many seeming conveniences: gaming and entertainment, connectivity and social networks, increased awareness and collective intelligence. But, for every device or technology there is both a positive and negative effect³⁹ and this more ominous side of the smartphone must be explored.⁴⁰ The smartphone may offer ease and entertainment but it also serves “the integration of the individual into the technical complex,” making this complex “more complete than ever before.”⁴¹ Like a clock tower, it taps into and carries communal value and expectations about labor; like a personal mechanical clock, a smartphone is owned individually, allowing it into our daily and nightly lives. Individuals are always embedded into their work lives with the connectivity that smartphones offer. In this way, labor dictates the function of the smartphone and drives the new social shape as well as individual identity. It is now the smartphone, which holds our clock that now offers capitalism “a special incentive to preoccupation with mechanical improvements.”⁴²

The wristwatch is the bridge between the clock tower and the smartphone: it individualizes time, still measured for and by labor, and offers the ability to make time one’s own. The personal wristwatch introduces a literal break in unified time because each watch represents an individual and also because there is no guarantee that the hands are identical from watch to watch. Wristwatch time is suddenly no longer shared and no longer destined to form homogenized subjects living in relation to predetermined demarcations of time (work and non-work), but instead threatens to destabilize this homogeneous workforce. The workday begins to extend, to personalize and leave behind the

heterogeneous expectations of time that the clock tower imposed, instead allowing greater diversity of experiences through the flattening and homogenizing of various times. It is this trend that smartphones inherit and amplify through digital means.

Though smartphones offer many personal forms of networking and entertainment, they also tell the time and contain great professional power. It is not that these games and social power somehow take the edge off of the demands that smartphones place on us, rather pleasure and leisure are facades in the face of the unbridled productivity that a device that includes time measurement and modern tools of labor, such as email, calendar, etc., demands. "Once time is mechanically or visually enclosed, divided and filled, it is possible to use it more and more efficiently. Time can be transformed into a labor-saving machine,"⁴³ and herein lies the nature of the plurality-of-times: these smart devices require professional presence and disembody time, even more so than the clock, by extending the workday into dinner and beyond. The workday, once formalized by clocks, now is abolished by our new time-telling devices; smartphones keep the time and deliver labor into periods that used to be off-limits for labor: the home, travel, weekends, evenings, and anywhere else one can reach for one's phone. Here, time flattens: the smartphone increases the reach of work and play and looses the binding of heterogeneous time. There is no longer an accepted end of the workday or beginning of leisure time.

It is our devices that drive this shift in understanding. Without smartphones, our rituals that protect personal time remain intact, but, "[n]ow demarcations blur as technology accompanies us everywhere, all the time."⁴⁴ In our ever-present search for progress, we "celebrate the continual presence of a technology that knows no respect for traditional and helpful lines."⁴⁵ Without the option to carry such powerful devices in our pockets, it would be impossible to have such multi-tasking ability at our fingertips. Here, again, social shifts are driven by our technology; it is our smartphones that are changing the society around us and our own schedules and realities.

As Wi-Fi connectivity continues to penetrate further into our world, these smart devices extend their reach. Indeed, “networked devices encourage new notion of time because they promise that one can layer more activities onto it... we have found ways of spending more time with friends and family in which we hardly give them any attention at all.”⁴⁶ It is this connectivity that is so appealing, so seductive: having the ability to respond to a work crisis immediately appears to be a positive change, but, truly, it just encourages crises. Productivity and success in this new world of labor is measured “against a metric” of accomplishments only possible if one is “always available.”⁴⁷ Put simply, “[i]n a tethered world, too much is possible.”⁴⁸

Tied to our devices, work follows us. The contemporary version of a vacation “usually means working from somewhere picturesque.”⁴⁹ Here, smartphones measure time and define productivity based purely in labor’s terms. Of course, the dangerous part is that smartphones offer entertainment, offer freedom. “Tethered, we are not to deny the body and its pleasures but to put our bodies somewhere beautiful while we work,” because “we know that the successful are always connected.”⁵⁰ This is the technological complex: pretend freedom on labor’s terms. It is not social connectivity or personal entertainment that smartphones offer, but the demands of work integrated into our lives; the social connectivity and personal entertainment are just the wrapping paper.

The ubiquity of smartphones, the devices that often carry our labor, ensure that “the economic fact covers all human activity. Everything has become function and object of the economy.”⁵¹ It is in fact that “the more we advance into the new world, the more is economic life dependent on technical development.”⁵² Here, the individual and the social blend as our devices explicitly promise to serve both. We are unable to recognize the effects that smartphones have on individuals without first coming to terms with the reality that the imposition of smartphones, personally, is of one’s own professional life, the labor attached to one’s name, the around-the-clock productivity that marks contemporary labor markets. Tellingly, Turkle notes that a group of professionals “insist that they are more productive and that their mobile devices “liberate” them to work from

home and to travel with their families.”⁵³ In the modern world that is created by smartphones, freedom is understood as working on vacation and from home.

But, what of the other side? If work is accessible from home and vacation, then so, too, leisure, family and meaningful connections are available at work. This is the heterogeneous aspect of time in the smartphone world: personalized use of time expressed through social connections from nearly anywhere. Whether it is an ongoing game of Words With Friends, a running commentary with close friends over Facebook chat or SMS messaging, the news cycle updated every second, or an email to family members thousands of miles away, this time, all time, is ours. As smartphones flatten and homogenize social time through the making of all time equally able to fulfill labor responsibilities, our individual experience of time is increasingly heterogeneous, a diverse and compelling dose of agency by way of personal expressions of identity and connection.

It is in the nexus of individual and social, personal and professional, that smartphones exert true power because “our devices are ever more closely coupled to our senses of bodies and minds.”⁵⁴ Our everyday lives begin to reflect the values of our devices, namely, speed. This constant barrage of information and the companionship that our always-on devices demand strikes many as intrusive; we have “[learned] to see ourselves as one with our devices.”⁵⁵ It is this always-on mentality that serves as the homogenous background for individuals to exert heterogeneous control over time. It may be that both technology serves individuals and individuals serve technology, which joins labor and individuals, individuals and choice.

Conclusion

In the clock, time was created and the measuring of time was forever tied to capital’s purposes; time as divided while creating a unified working-class experience. As the clock moved out of the town square and onto our wrists, an individualized class grew to negotiate their world through the structure of work; time as personalized, decentralized. When the clock moved into our pockets

and purses and also offered email services, games, calendars and all of the other amenities modern smartphones offer us, the line was blurred and time was no longer that which measured labor and productivity in a uniform fashion but became a tool for multi-tasking efficiency; time as a blank canvas for purposes of both labor and individual expressions. Productivity is no longer measured against predetermined time intervals, but against the black hole of always-on; time no longer separates because we carry time and our labor and our social lives with us at all times. It seems true that “none of our wise men [sic] ever pose the question of the end of all their marvels,”⁵⁶ but it is critical that we turn our attention to the future of our devices of time. If “thinking about technology brings us back to questions about what really matters,”⁵⁷ then we must be diligent in keeping what really matters in the fore as we create our technology, the technology will eventually create us and our world. We must insist that our devices of time continue to allow for greater diversity of expression, that the technology be unmoored from labor’s purposes and instead fastened to the future of human flourishing. Where these limited tools give a chance at freedom and agency, the ability to resist the overwhelming pull of labor, it is precisely there that machines serve us, and not us the machines.

NOTES

- 1 Neil Postman, *Amusing Ourselves to Death* (New York: Penguin Books, 1985), 11.
- 2 *Ibid.*, 13.
- 3 Lewis Mumford, *Technics and Civilization* (New York: Harcourt, Brace & World Inc., 1963), 3.
- 4 *Ibid.*, 6.
- 5 *Ibid.*, 14.
- 6 Marshall McLuhan, *Understanding Media* (Corte Madera, CA: Ginko Press, 2003), 202.
- 7 *Ibid.*, 202.
- 8 *Ibid.*, 202.
- 9 For the purposes of this article a smartphone is any phone that has Internet connectivity and the digital capabilities typically associated with the iPhone, Blackberry and Android products.
- 10 Though this article leans heavily on Marxist sensibilities, Marx will be left to haunt these pages as the defining spectre for any work concerned with labor and only used as an explicit dialogue partner sparsely, choosing instead dialogue partners with more concrete interaction with contemporary technology.
- 11 Mumford, 12.
- 12 *Ibid.*, 15.
- 13 Karl Marx, *Capital Volume 1* (New York: Penguin Books, 1990), 394-395.

- 14 David Harvey, *A Companion to Marx's Capital* (London: Verso, 2010), 147.
- 15 Mumford, 13-14.
- 16 *Ibid.*, 12.
- 17 *Ibid.*
- 18 *Ibid.*, 17.
- 19 *Ibid.*
- 20 *Ibid.*, 14.
- 21 This often happens through breathing, a pulse, intervals between stimulus, chemical adjustments based on internal and external cues, etc.
- 22 McLuhan, 199.
- 23 *Ibid.*
- 24 Harvey, 147. Surely this is part of the social control at work in Foucault's understanding of governmentality: individuals internalize some abstract concept, likely in place to serve the needs of some power, and govern themselves accordingly.
- 25 Mumford, 16.
- 26 Time marches on; it's a matter of time; time fixes all; take time out; run out of time; time to go; a race against time; how time flies; and, the ever theatrical, once upon a time.
- 27 Clearly it is not only our devices of time that drive such complex and thorough changes in cultural practices. Our technologies and machines hum happily along, but somebody had to plug them in. It is not my intention to say that smartphones alone are responsible for social values, but simply to interrogate their place and impact on our attitudes and social practices.
- 28 Philip Zambrado, "The Secret Power of Time," [video on-line]; accessed 22 February 2012. <http://comment.rsablogs.org.uk/2010/05/24/rsa-animate-secret-powers-time/> .
- 29 McLuhan, 202.
- 30 It was tempting to use the possessive phrase "their time" which signals well the switch to individual conceptions of customizable time as opposed to communal experiences of enforced time, as the clock signaled.
- 31 Aden Hepburn, "Infographic: Mobile Statistics, Stats & Facts 2011," *Digital Buzz Blog*, accessed 14 March 2012, <http://www.digitalbuzzblog.com/2011-mobile-statistics-stats-facts-marketing-infographic/>.
- 32 Daniel Cooper, "Canalys: More smartphones than PCs shipped in 2011," *Engadget*, 3 February 2012, accessed 14 March 2012, <http://engadget.com/2012/02/03/canalys-more-smartphones-than-pcs-shipped-in-2011/>.
- 33 Jacques Ellul, *The Technological Society*, (New York: Alfred A. Knopf, Inc., 1964), 75.
- 34 The burgeoning market for shared 24-hour work spaces, an extension of the third-place mentality for spaces of labor, is a great example of this. The new economies are built upon many facets of the digital age, but this smartphone conception of time and labor is surely foundational.
- 35 *Ibid.*, 61.
- 36 McLuhan, 207.
- 37 *Ibid.* McLuhan quips that one can "have dinner in New York and indigestion in Paris."
- 38 McLuhan, 20.
- 39 Postman, 29.
- 40 Much popular literature has been published on the dilemma that such ubiquity of connectivity and technology impose, most recently *The Economist's* "Slaves to the smartphone." But, I find

these answers dangerously misleading: the suggestion is often that one can simply opt out of the connectivity by powering down one's device for a certain amount of measured time. This is dissatisfying because it does not fully account for the powerful shaping of society that devices accomplish; it doesn't help us reach a sustainable answer, but instead offers more personalized answers for moments of sanity. Because of this end goal, of more actual productivity, these attempts at helping only sustain the current system by stopping short of the full critique necessary.

- ⁴¹ Jacques Ellul, *The Technological Society* (New York: Alfred A. Knopf, Inc., 1964), 155.
- ⁴² Mumford, 27.
- ⁴² McLuhan, 208.
- ⁴⁴ Sherry Turkle, *Alone Together* (New York: Basic Books, 2011), 162.
- ⁴⁵ *Ibid.*, 166. For examples of "celebration" I offer two examples: first, the idiom "crackberry" meant to playfully, with a very slight tinge of guilt, refer to the way a blackberry's functions can become addictive. And, second, the amount of functions that our smartphones have to remind us and everyone in our networks that we have a smartphone. Here, I'm thinking of apps like Foursquare and others that are only possible if one has a smartphone, if one is in the highly desired club. These apps are predicated on proclaiming one's presence in a physical location but more so in a digital landscape.
- ⁴⁶ *Ibid.*, 164.
- ⁴⁷ *Ibid.*
- ⁴⁸ *Ibid.*
- ⁴⁹ *Ibid.*, 165.
- ⁵⁰ *Ibid.*
- ⁵¹ Ellul, 158.
- ⁵² *Ibid.*, 153.
- ⁵³ Turkle, *Alone Together*, 167.
- ⁵⁴ *Ibid.*, 166.
- ⁵⁵ *Ibid.*, 167.
- ⁵⁶ Ellul, 436.
- ⁵⁷ Turkle, *Alone Together*, 295.