Abstract
The essay is a meditation on Paul Virilio’s legacy and its relevance today, focusing specifically on accelerated time; civilianisation of military technologies, and the information bomb. The author discusses the complex and unevenly distributed effects of the digital era, raising a set of questions, such as: Whose time is accelerating? What happens when everyday culture is militarised, while military technologies are civilianised? How does the information bomb explode beyond the visual? Reflecting on the prophetic character of Virilio’s theorising, the author argues that in the days of platform labour, disappearing job stability, as well as mass imprisonments and growing precarity, we need new ways of thinking about the right to time, and about the slow violence of both acceleration and timelessness. In the days of “smart” warfare, digitally-operated borders, biometric surveillance, as well as of global spectacles of “real life” killing and dying we need to fundamentally rethink the meaning of “civilianised” and “militarised”. In the days of massive celebration of AI, smart technologies and the overall digitisation, we need to envision new forms of (data) justice, to live in the aftermath of the exploded information bomb and its fire that continues burning.

Keywords
militarisation, dromology, time acceleration, digital archives, datafication, violence
line violence; borderless communication and militantly bordered identities (Kuntsman, 2009). As I followed the changes in digital cultures and on-line communication throughout the 2000s – the on-line sociality turning increasingly visual; the spread of materials growing increasingly viral; the violence of many on-line exchanges becoming increasingly intense; with the amount of information becoming increasingly overwhelming – Virilio’s notions of cybernetic knowledge, militarised perception, surveillance and tele-presence, information overload and accelerated speed resonated deeply with what I had been observing and documenting.

Today, writing a tribute to Virilio’s work, I am picking from the shelf my favourite book of his, *The Information Bomb*, struck by its prophetic character, by its (even more increased) relevance, by how much of today’s digitality was already in the making three decades ago, in what he called “cybernetics”, and by how far we have come since. And I am equally struck by how deeply complex and unevenly distributed the effects of the digital are, and how much theorising of this unevenness is still needed, despite a wealth of scholarly work that followed in Virilio’s footsteps. For example, rather than assuming that everything is militarised in the same way; that surveillance is experienced univocally; or that everyone is moving faster, we need to ask instead: what/who gets to move, and what/who stays still? What/who is tele-present and what/who is invisibilised? What/who is subjected to the deadly panoptical tele-surveillance and what/who enjoys turning surveillance into a game of imagination?

While some of those questions are already being answered by scholars, activists, and data practitioners, others still await our attention. My aim here, however, is not to provide all the answers – if anything, this essay lays out more and more further questions. So, in reflecting on my own work in relation to the questions listed above, my hope here is, first and foremost, to pay tribute to Virilio by thanking him for the inspiration to *ask and to inquire*, and to never assume that the impacts of digital media technologies are univocal, or fully comprehensible.

**Whose time is accelerating?**

One of the key themes in Virilio’s work, and in particular in *The Information Bomb*, is cyber acceleration and what he calls the “dromospheric effect” (Virilio, 2000: 117) – an inevitable and violent development brought by the cybernetic and the digital. The
dromospheric is deeply embedded in the logic of capitalism, on the one hand, and in socio-technological structures, on the other. Yet, the impacts of the dromospheric are far from universal. In her *Pressed for Time: The Acceleration of Life in Digital Capitalism*, Judy Wajcman (2014) critiques the idea that there is a single temporal regime that we all share – that, accelerated by rapidly growing and changing digital technologies, our lives are always, everywhere, moving faster, and with equal speed.

Instead, she points to the multiplicity of temporal textures and rhythms of everyday life. And this is where, inspired by Virilio’s notion of the dromospheric, I would like to pose several concrete questions. Firstly, whose lives are we talking about when we talk about digital acceleration? Secondly, is speed a condition, a quality, or a capital? And lastly, as we think about speed – what about stillness?

So, first of all, whose life is moving faster? One of the really interesting concepts in Wajcman’s book is the notion of “time poverty”, and to understand it, she focuses on gender differences, family life and work-life balance. As an overworked academic in the neo-liberal machine of bureaucracy and accelerated productivity, and as a parent/carer, I find the notion of “time poverty” and work-life balance – or the lack thereof – painfully precise. But I also wonder: how would our thinking about time shift if we took as our starting point not the productive (and reproductive), family-oriented, and legally employed, citizen-labourer, whose life is structured and governed by regimes of acceleration and temporal intensity. What if, instead, we began our discussion with those who are forced into different time zones, into zones of no time, or denied time – prisoners; stateless and jobless refugees in the limbo of detention centres; queers of colour; the homeless?

Avery Gordon, in her “Some Thoughts on Haunting and Futurity” (2011), writes about incarceration as a form of social death, and related to it, about “prison time” – a highly controlled time of prison life, coupled with “time to be done” as punishment, exercised through the denial of time, and future. For Gordon, as for many others, the abolitionist project – which exceeds the analysis of the prison-industrial complex into the broader critique of regimes of social death – is about redeeming time, refusing to serve time, or in other words, refusing to live in the time zone of social death.
What if we changed our starting point, our lens, from labour and production – and indeed, increasingly digital labour, and digital production – to incarceration, abandonment, and social death, as socio-political structures that shape our whole society, not just those perceived as being in its margins? Then our questions about time wealth, time poverty, and the speed of digital time might shift, too.

And here comes my second question: how can we think about speed beyond being only a condition (as in “time acceleration”), or only a capital (as in “time poverty”)? Here we can think of what Wajcman calls the cultural “imperative of speed” (2014: 183) – not the speed itself! – a resource which is not simply unevenly possessed due to socio-technical assemblages of the world of work, the technologies that are used, social norms and social conditions, but also unevenly distributed. In other words, when we think about dromology, we need to take into account that while speed is enforced on some (the citizen workers who are always expected to work faster, or time poor working parents, who need to juggle their work-family balance in the face of those expectations), others are violently denied access to temporal speed (the prisoners, the refugees, the non-subjects). Speed, here, becomes not a burden, but a necessity, a form of conditional inclusion into the (neo-liberal) society. The dromospheric, then, is not only an emerging curse – rather, it is also a new form of privilege.

This co-presence of forced abundance and violent deprivation of accelerated time leads me to my last question in this section. When we think about speed, let us also think about stillness; about who, and what, does not move. As a scholar of digital culture and communication – and more specifically, as an ethnographer of the stuff digital communication is made of (texts, images, on-line conversations, communication platforms) – I have long been fascinated by how, while digital words, pictures, emotions seem to fly around so fast – another tweet, another comment, another post, another emoji, another snapshot – they can also stay still. Once released, they become frozen in on-line archives. I called them, in one of my earlier books, “virtual fossils” (Kuntsman, 2009), for such digital archives are about timeless preservation, which is always ready for reopening, revival, re-examination – but more often is about oblivion.

This particular notion, of frozen digital archives, comes from my work on images and debates around war and violence in on-line domains, thinking about what happens to
those digital snapshots of blood, destruction, death, as they are buried under layers of new updates; as they stay on on-line servers for years, long after the new atrocities wash away public memories of the old ones (Kuntsman, 2011). I called them “haunted archives”, for they are haunted both by those who died without justice, and by future possibilities of new violence or reckoning and reconciliation.

But digital archives – the speed with which they mount up, and the deadly stillness of their preservation – bring up broader questions of digital memory. How do we remember in the age of digital acceleration? I often ask my students, how many photographs their grand- or grand-grand parents have. Mine had several hundred, and I had seen them all. Babies and children of today can have hundreds of digital snapshots taken in one month alone. How will they remember their childhood decades down the line? How will their own grandchildren see it?

How do we remember, in these new configurations of speed and stillness, which are also about preservation as well as oblivion – for digital memory, as some have argued, is about information overload just as it is about the possibility to capture and record everything (Garde-Hansen et.al., 2009); they are about our digital “archive fever” (Derrida, 1996), just as they are about a growing desire to delete (Mayer-Schönberger, 2009) and “to be forgotten”, to use the words of the recent EU law, allowing people to remove some of their records from Google search – and this is part of a broader debate about who owns our memory in the digital age; about whether we even want to remember everything, especially as search engines, algorithms, and corporate bodies do a lot of our remembering for us. Digital archives are also about potential future amnesia. What would happen to all individual and collective information, when, as some are suggesting, our data tools and devices that store them, become obsolete?

And finally, and most crucially, the futurity of digital memory is, too, not distributed universally. While some enjoy the comfort of high-tech family albums or the social networks’ commemorative reminders, others navigate daily breaks in connection, access blocked by cross-platform censorship, or the infrastructural violence of what Miriyam Aouragh called “cybercide” (2016). And while some lives expand further and further into the digital estates, others crumble under mountains of toxic e-waste or the relentless heat of data farms, with no liveable future in site, digital or analogue.
What happens when everyday culture is militarised, while military technologies are civilianised?

Apart from accelerated speed and dromology, another prominent and perhaps most well-known theme in Virilio’s work is the relations between the military and the cybernetic. Virilio, like many others (see, for example, Haraway, 1997), points to the importance of the military origins of the Internet, not only as a genealogical trajectory of cyber/digital technologies, but as a way to think through how on-line communication is adopted for various forms of control and governance:

A single technical phenomenon which both facilitates metropolitan concentration and the dispersal of major risks – this needed to be borne in mind if in the future (at all events, very soon), a cybernetic control appropriate to domestic networks was to be developed… hence the relentless advance of the Internet, the recently civilianized military network (Virilio, 2000: 12, emphasis in the original).

Crucially, his argument here concerns not just governments, armies or policing – social institutions that are militarised by definition. Rather, throughout The Information Bomb, Virilio lays out multiple ways in which the everyday intersects with the militaristic: “tele-presence” that can be found in live streaming of one’s intimate life and in media monitoring of whole populations; “optical density” (2000: 14) of the computer screen which is both about the “industry of stimulating desire” (2000: 17) and the visual density of information war. Together with his earlier work on “logistics of perception” and the use of images in/of warfare (Virilio, 2009[1984]), the relations between the military and civilian – and often the personal and the intimate (cinema, entertainment, images, individual screens, personal perceptions) – is what I would like to reflect on next.

In his Militainment, Inc.: War, Media, and Popular Culture, Roger Stahl talks about “playing war”, where “[w]artime news looks like a video game; video games restage wartime news. […] Advertisements sell video games with patriotic rhetorics; video games are mobilized to advertise patriotism” (Stahl, 2009: 109). What are at stake here are not only similarities of visual language or content. Rather, it is the technology itself that is used simultaneously for war and play. War-themed computer games endlessly replay
historical, recent and imaginary battles using highly developed simulation technologies; while soldier training includes very similar virtual reality technologies to first prepare, and then enact military violence. Virtualisation and virtual reality, discussed extensively by Virilio, come to life in gaming consoles and military control rooms alike — and the distinction between them is easy to blur. As James Der Derian notes, disconnection from the reality of war takes place through combining the ever-increasing precision of killing with playful removal of death out of sight — and thus, virtual wars become virtuous wars (Der Derian, 2001).

Without assuming any predetermined effects of this militarised virtuality, what is at stake here is the bleeding of the playful and the politically conscripted, the brutal and the intimate, into each other — bleeding that has broader implications on culture and society, beyond any attempts to determine whether playing a war game makes the player more violent; or, in turn, whether military training using a game-like simulation necessarily desensitises the trainee player/soldier. The civilisation of military technologies, in other words, has broader, deeper, and often elusive effects, beyond the adaptation of the infrastructural. One more way to take Virilio’s work further is to think about the militarisation of the everyday, beyond “playing war”.

For example, Rebecca Stein and I demonstrate in Digital Militarism: Israel’s Occupation in the Social Media Age (2014) that today’s social media environments offer new forms of interplay between light-hearted everyday communication – the informality of chatter on social media; the aestheticised filters and banal self-promotions on Instagram; Facebook likes and shares etc. — and militarist politics. While social media is increasingly conscripted into war-time communication such as propaganda websites, tweeted threats of military incursion, YouTube circulation of real-time battlefield footage, or Facebook users’ efforts to gain international support; civilians in militarised nations find new ways to display their patriotic feelings in the globalised networked environment at their fingertips — in the palms of their hands, holding a smartphone.

Furthermore, some smartphones now travel to the battlefield with soldiers and army generals, who post smiling selfies before, during and after actions of military carnage. Waiting for a ground invasion; “resting” in an empty house violently emptied of its inhabitants; cheering from inside a tunnel (aka a target “object of significance” for the army general, and a survival lifeline for the besieged civilians); overlooking a landscape
of what is a warzone for the soldier, and a home/village/country/ancestral land for the soldier’s human targets. We called the emergence of such selfies “selfie militarism”, looking at the long history of soldiers taking unofficial snapshots from their military service. Today, soldier selfies are beautified and hashtagged on Instagram, proudly displaying blindfolded, injured or dead “enemies” for the global world to see, in a new chilling twist to Virilio’s “logistics of perception”.

As selfie militarism is becoming a common practice, other sites of civilianised military technologies no longer cause surprise. Drones – perhaps the most iconic military technology of targeted remote killing – are used to take holiday snapshots, aka “dronies” (Jablonowski, 2017), and deliver Amazon packages; while biometrics and other digital surveillance are built into every smartphone, and used eagerly and extensively by those safe from airstrikes, invasions, or border control.

And, once again, the imperative question to ask here is how those forms of militarisation and civilianisation are affecting us differently. War-themed computer games, which are usually created in the genre of “first person shooter”, by definition frame the world through the eyes of the perpetrator. But how do “virtual wars” look from the point of view of victims and survivors of militarist carnage? Do they seem equally entertaining – or, by contrast, deeply traumatising? Or, to put it simply, would one play a computer wargame when bombs and drones are falling on one’s head from the sky?

Such questions, in turn, can allow us a more critical research or teaching of the very examples used above, such as selfies, or computer games. In my own classroom some of the most heated debates, each year, are ones that address the impact of game design on social change. Another is a discussion of selfies for the purpose of (anti-war) political action. But beyond asking “Where are selfies of anti-war resistance?” or “Are alternative war-themed games possible?” – questions raised by students, activists or game developers – what I am calling for, here, is reconfiguration of the very field of social media militarism, virtual wars and other intersections between the military and the digital. Instead of only documenting the adoption of the digital into the military, and of the military into the everyday, we need to ask: How will a life, taken brutally and prematurely in an act of military violence, with dying documented by a smartphone and immortalised in myriad dispersed digital archives, be remembered and by whom?
How is drone warfare and other associated “precision technologies” seen, felt and lived from the point of view of their human targets?

**How does the information bomb explode beyond the visual?**

After the first bomb, the *atom bomb*, which was capable of using the energy of radioactivity to smash matter, the spectre of a second bomb is looming at the end of this millennium. This is the information bomb, capable of using the interactivity of information to wreck the peace between nations (Virilio, 2000: 63)

In our days of multiple devices and endless communication platforms, programmes and apps, adopted into almost every aspect of our everyday life, including work, consumption, and leisure, the idea of information overload – indeed, the “information bomb” – has become a truism. In line with Virilio’s warning, conflicts between countries, militant groups, states and their citizens are increasingly shifting into the domain of information warfare. Hacking attacks on websites, financial markets, banking systems, and civilian and military infrastructures – what Athina Karatzogianni has described as “cyberconflict” (2006) – have become a common tool of both national and international relations. And elections and diplomacy are being radically transformed by leaked cables and “fake news”.

And while those more visible public arenas are being “wrecked” by the “interactivity of information”, so are the everyday lives of ordinary people, albeit in quite different ways. Experts, journalists, community organisations, health experts, workers’ unions and ordinary users report negative impacts of excessive screen time on our capacities to learn and socialise, and on our physical and mental well-being. Some offer ways to manage and reduce screen time and information consumption via a range of time management techniques and legal regulations; others call to step away from the digital altogether, at least in selected spaces (libraries, childcare spaces, bedrooms) or in selected times (study, dinner, sleep).

When Virilio wrote his *Information Bomb*, his ideas of “real-time illumination” (2000: 59), extreme exposure of private life, and “remote surveillance” (2000: 64) were almost exclusively evolving around the visual. He talked about simultaneous transformation of visual perception, and its fast and global spread, resulting in “new global optics” of
“panoptical vision” (2000: 61); “the era of global snooping” (2000: 65), and “stolen vision” where “blind spots of daily life disappear” (2000: 59). One can only think for a moment about social media excessive sharing, Instagramming and Facebook-life-streaming of everything and everyone, to note the acute relevance of Virilio’s work.

And yet, a radical shift is also at play, one that both confirms and challenges his idea of the information bomb. While both the popular grammars of social media – a duck face, a selfie/hashtag action, a profile pic, a holiday snapshot – and the biometric governance of facial and other bodily recognition operate predominantly through the visual, the new global optics of disappearing invisibility is increasingly predicated not on visual presence, but on datafication. It is the mined and monetised data, which is truly at the heart of the information bomb exploding upon us, driven by what Shoshana Zuboff has poignantly called “surveillance capitalism” (2019). And it is the data – the “Big Data” – which is welcomed and glorified by almost every industry, every scientist, every politician and every policy maker, who strive to map, track and document everything and everyone, from human heartbeat to fluctuations of emotions to urban traffic to shopping patterns to flows of waste to planetary weather.

The “generalised violence of acceleration” (Virilio, 2000: 72) is undoubtedly true for our understanding of datafication, for it is both the speed and the volume of data flows that allow the disappearance of blind spots, and not only for the present moment, but also in/for the future, due to the unprecedented rise of predictive analytics across corporate business, governance, and policing.

In their discussion of resistance in the algorithmic age, Alistair Fraser and Rob Kitchin put forward the notion of “slow computing” (Fraser and Kitchin, 2017). Building on the concepts of “slow food”, “slow scholarship” and “slow urbanism”, they describe it as “a form of computing that works in the service of citizens to promote their wellbeing and protect their rights, rather than prioritizing the aims and values of corporations and states” (2017: 3). They further argue that slow computing is first and foremost about “slowing down one’s rate of participation in processes of social acceleration and temporal reconfiguration” (2017: 8).

But once again, it is imperative to ask: what/who gets to slow down, and what/who is forced to continue to move? What/who gets to resist the compulsory visibility of
datafication, and whose everyday survival rests on being counted – at the daily shifts in the “gig economy”, at a border crossing, a job centre, or at the food bank?

**In conclusion**

In this short essay, I laid out several questions and deliberations, inspired by Paul Virilio’s writings. My intention was not to offer a comprehensive review of the current work on time, militarisation or the information bomb – such work is vast, complex, and growing – and to do it justice, a few separate essays would be required. Rather, I was hoping to think through Virilio’s legacy and its relevance today. Many of the questions, posed in this essay, may not have immediate answers. Nevertheless, we must continue pursuing them. In the days of platform labour, disappearing job stability, as well as mass imprisonments and growing precarity, we need new ways of thinking about the right to time, and about the slow violence of both acceleration and timelessness. In the days of “smart” warfare, digitally-operated borders, biometric surveillance, as well as of global spectacles of “real life” killing and dying, we need to fundamentally rethink the meaning of “civilianised” and “militarised”, as the lines between the two have all but disappeared. In the days of massive celebration of AI, smart technologies and overall digitisation, we need to envision new forms of (data) justice, to live in the aftermath of the exploded information bomb and its fire that continues burning.

**References**


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