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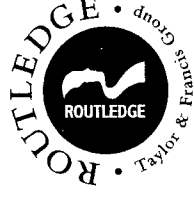
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THINKING GEOPOLITICAL SPACE

The spatiality of war, speed and vision
in the work of Paul Virilio

Tim Luke and Gearóid Ó Tuathail

Born in Paris in 1932, Paul Virilio is a child of the Third Republic. His intellectual project, in many ways, centres upon the tremendous military, economic, and cultural forces that blitzed the republic of his birth in less than a month. Virilio describes his childhood as one wracked by warfare, recalling the destruction of Nantes in 1942 as a traumatic event (1983, 2, 24). In the preface to *The Insecurity of Territory*, Virilio describes war as his father and his mother. After the trauma of World War II, Virilio's intimate relationship with war continued as he was drafted into the French army to fight in the Algerian War. 'War,' Virilio once claimed, 'was my University' (1983, 24).

Trained as a city planner and architect, Virilio's experience of, and indeed fascination with, military affairs and weapon technologies shaped his approach to the intellectual questions of landscape morphology and urban design. In 1958, he began researching and photographing the fortified emplacements of Hitler's Atlantic Wall. The result was an exhibition organized by the Centre for Industrial Creation and presented at the Museum of Decorative Arts in Paris from December 1975 to February 1976. Out of this show came *Bunker Archaeology*, a collection of the exhibition's photographs together with a brooding exegesis by Virilio on military space and the historical tendencies, institutions, personalities and aesthetics conditioning the spatiality of war.

By this time, Virilio was already a well established figure within the French architectural world. In 1963 with Claude Parent, Virilio founded the 'Architecture Principle' group, and oversaw the construction of two important structures: the Sainte Bernadette de Nevers parochial centre in 1966 and the aerospace research centre of Thomson-Houston in

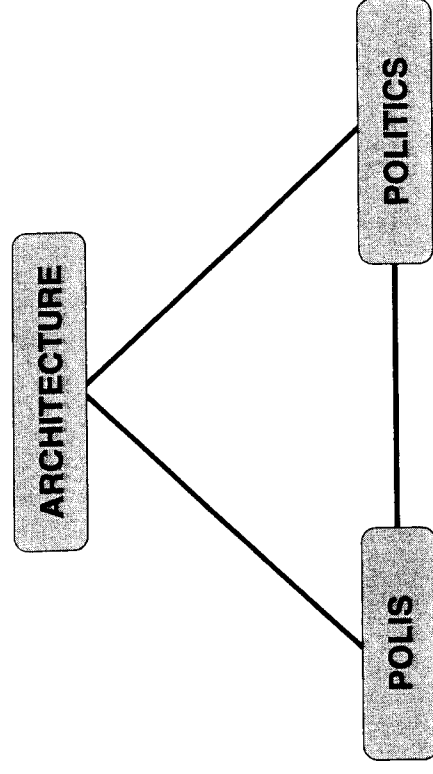


Figure 16.1 Military power/knowledge/technology

Villacoublay during 1969. Named professor and workshop director of the Ecole Spéciale d'Architecture in Paris during 1969, he was promoted to director of studies in 1973 and president in 1990.

Beginning with his pathbreaking *Bunker Archaeology*, Virilio has published a series of innovative and suggestive 'think pieces' on transhistorical tendencies in warfare, technology, human settlement forms, communications, media and cinema, many but not all of which have been translated into English and other languages (see References). The wide-ranging scope and eclectic nature of these writings have made Virilio a difficult intellectual to categorize. He is, at one and the same time, a historian of warfare, technology and photography, a philosopher of architecture, military strategy and cinema, and a politically engaged provocative commentator on history, terrorism, mass media and human-machine relations.

Nevertheless, it is not difficult to identify the problematic that Virilio has been addressing since the 1970s. This problematic can be conceived of in terms of two triangles, the first disciplinary and categorical in a conventional sense (see Figure 16.1) while the second (see Figure 16.2) is more fully conceptual and idiosyncratic, revealing the three overarching themes that preoccupy or, perhaps as some might argue, obsess Virilio in his writings.

The first triangle maps out the linkage between Virilio's different professional identities as an architect, an analyst of military strategy and an engaged political figure. As an architect, Virilio is deeply concerned with the nature of urban form. It is reflection on the urban that leads him directly to politics via the polis. '[T]he relation to the city, for me, is immediately a relation to politics. Furthermore, urbanist and politician,

thought, finding expression in the work of Baudrillard, Deleuze, Derrida, Foucault, Guattari, Latour and others.

It is the elemental qualities of this second triangle that concern us in this paper. More specifically, we propose to examine the nature and implications of Virilio's thinking on the machinic qualities of war, speed and vision for the thinking space of geopolitics. Geopolitics, it is worth noting, is not a fixed and unified body of work or field of endeavour. Rather, it is a constellation of concerns with logistical technology, territorial space, global vision, imperial strategy and power projection, concerns that have historically come together in different ways in different places in the writings of certain canonical intellectuals and the practices of powerful and hegemonic states (Matellart, 1994, 1996; Ó Tuathail, 1996). Virilio's writings can certainly be considered as operating within the constellation of geopolitics; it is how they help us re-map the elemental forces of this constellation that is of greatest interest to us in this chapter.

Before considering the machinic qualities of war, vision and speed, it is worth commenting a little on Virilio's method and writing style. Virilio himself has noted that he is primarily interested in 'tendencies,' not 'episodes,' quoting Winston Churchill to the effect that in ancient warfare 'the episodes were more important than the tendencies' whereas 'in modern warfare, the tendencies are more important than the episodes' (1983, 11). This separation is important to understand Virilio's work. It marks an important distinction between his own resolutely trans-historical gaze, which is centered upon identifying essential tendencies, trajectories and trends, and the more historically embedded vision of other scholars, who are interested in messy empirical reality. In deploying such a gaze to generate 'insights,' Virilio is working within the tradition of many grand strategists and geopoliticians who are also interested in decontextualized tendencies. All are inclined to generate 'timeless truths' about strategy as they sweep across the record of human history, from ancient warfare to its most contemporary forms (Agnew, 1998). Tendencies are essentially naturalized, transcultural constants, while episodes are culturally contingent and historically grounded.

In Virilio's case, this restless trans-historical gaze is combined with a particular elliptical style which values suggestion more than explanation. Virilio himself has endorsed such a position declaring that he does not believe in explanations:

Being an urbanist and architect, I am too used to constructing clear systems, machines that work well. I don't believe it's writing's job to do the same thing. I don't like two-and-two-is-four writing ... I work in staircases ... I begin a sentence, I work out an idea and when I consider it suggestive enough, I jump a step to another idea without bothering with the development. Developments are

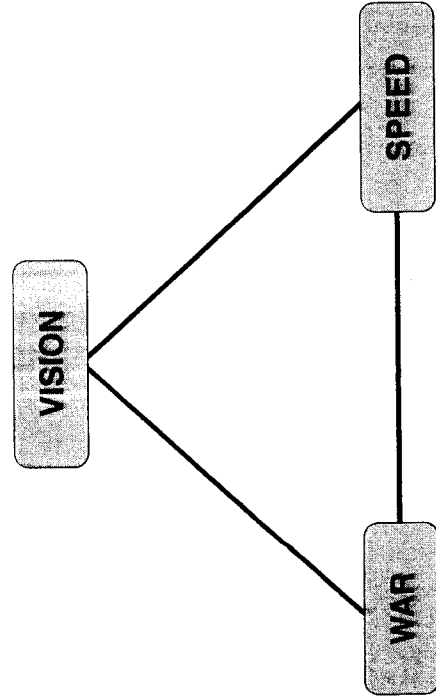


Figure 16.2 Unifying concern: human-machine interfaces

etymologically speaking, are the same thing. Modern political ideologies have obscured the fact that politics is first and foremost about the *polis* (1983, 2–3). Playing the Latin roots of 'urbanist' against the Greek derivations of 'politician,' Virilio turns this linguistic collision into an important observation. If the urbanist, as a student of the *polis*, and the politician, as an actor within a *polis*, are one, then reflections on urbanism are inevitably also reflections on politics. Etymology also leads him to reflection on warfare, the primordial human activity that has always shaped the very form of human settlements and the possibilities of the city. As he points out in his writings, etymologically an urbanist is one who builds cities in order to defend them (1983, 86). Like Louis Mumford, with whom his writings share certain key elements, Virilio reimagines the city, in part, as the material anticipation and outcome of war-making, and urbanistic reasoning becomes, in part, the constant preparation for it (Mumford, 1963, 1970).

Uniting all three corners of this first triangle is the problematic of military power, knowledge and technology. With qualitative changes in the combined functioning of the latter during the twentieth century, the very nature of the former is transformed. Virilio's single-minded pursuit of this problematic of military power/knowledge/technology pushes him into a wide-ranging reconsideration of some of the most complex and challenging questions of our time, problematics that register as concerns with war, speed and vision but which are unified at a deeper level by Virilio's ongoing fixation upon the contraction of human control over the machines that frame, condition and threaten life at the end of the twentieth century. This concern with the human-machine equation is not, of course, particular to Virilio but a dominant concern of late twentieth-century French

the episodes. I try to reach the tendency. Tendency is the level of change.

(1983, 38–9)

Lotringer, in her conversations with Virilio, somewhat charitably described his as a 'writing in a state of emergency', a writing on war that is at war in order to draw attention to the nuclear terror that is warfare in the late twentieth century (or during the era of Cold War nuclear deterrence at least).

This ignores, however, the somewhat serious deficiencies of Virilio's suggestive method. First, Virilio's method is inclined to launch rhetorical bombs: clean, little declarative statements about urbanism, warfare, states, speed and technology that are clearer and cleaner than the messy explosions of history warrant. Like Baudrillard, Virilio's rhetoric tends towards overstatement and hyperbole as he spins out observations on speed and violence. He can be a quipmeister, turning out sound-bite theory for sound-bite times. His writings are often no more than journalistic musings which leap dizzily from one historical age to a different one in the space of paragraph. At times, his writing is sloganistic, displaying an obsessive fascination with essential mantras and timeless truths, like Sun Tzu's 'speed is the essence of war' or William Perry's (a former U.S. Secretary of Defense) 'once you can see the target, you can expect to destroy it'. At other times, Virilio's writing stumbles off the staircase altogether, descending into absurdity and mysticism, with elements and echoes of Christian themes and apocalypticism (see, for example, his reading of death, Vietnam and Nixon (1983, 160–1), women, families and war (1990, 81) and the condemnation of sexual perversion and diversion in cyberspace (1995, 103–18)).

Second, Virilio's writings are infused by almost paranoid fantasies, which bring the tendencies he identifies into their purest form, the pure war of totally automated battlefields or the purifying Domsday Machine of *Dr Strangelove* fame with its automated declaration of war for example. It is important to note that this paranoid style can reveal much to us and has been used to good effect by other theorists like Donna Haraway (1997). This apocalyptic style is a Cold War artifact, which was not unjustified during the so-called 'Second Cold War' of renewed American–Soviet conflict from 1979 to 1989. Nevertheless, it can lead to sweeping declarations that sound unsubstantiated or, even worse, insubstantial. Another postmodern French huckster to some, yet a prescient techno-savvy strategist to others, Virilio's writings always provoke his readers to reason beyond their inherited and conventional ontologies.

I. Colonizing war machines: the spatiality of war

To Paul Virilio, all human geography is ultimately a product of warfare, because space is always imagined as the zones of defensive barriers and/or offensive operations. The requirements of military geography establish the possibilities and parameters for human geography. At root, war and the preparation for it produces the space–time of the human experience as a function of projectile speeds, logistical rates of transport, or intelligence insight gathering. The territorial organization of space into human settlements and political units of authority, from the earliest human village settlements to medieval city-states, modern nation-states and world-wide empires, reveals a constant tendency: they express different orders of military power, knowledge and technological organization.

For Virilio, there are three distinct orders of military knowledge: tactics, strategy and logistics. Virilio imputes tactics to 'the art of the hunt' in early human civilizations. These civilizations exist without wars in the modern sense, the clashing of different tribes generating mere 'tumults' (1983, 4). Virilio associates strategy with the emergence of the Greek city-states through to the development of the commercial city-states of feudal Europe. It is the organization of space as a theatre in preparation for war, with a city-state fixed at its centre fortified and capable of defending itself and its supporting military–political system should war break out. Tactics do not disappear as an order of military knowledge but are merely subordinate to strategy.

Beginning in the late nineteenth century, however, both tactics and strategy slowly are displaced by logistics as a new order of military power/knowledge/technology associated with modern mechanized war economies realizes the emergent possibilities of vast destruction in the horrific actuality of waging total war. By the time of Hiroshima in 1945, logistics has become the dominant order of military power for Virilio. It is, he suggests, quoting from a Pentagon statement at this time, 'the procedure following which a nation's potential is transferred to its armed forces, in times of peace as in times of war' (1983, 16). With logistics, the distinction between times of peace and times of war disappears; there is only the perpetual preparation for war.

Like many scholars, Virilio reads early modern states as little more than war machines (see Mann, 1986; McNeill, 1982; Mumford, 1970). They are predatory organizations that colonize both space and human populations, organizing space into a military system of segmented and striated, parcelled and protected territory, and human populations into temporal relationships which support the functioning and perpetuation of military machines. The semi-colonial economy of feudalism, Virilio suggests, 'this military protection racket, forms the constitutional basis of the great

modern States' (1990, 46). The French Revolution marks a qualitative change in the ordering of space and time by the state as a military war machine, for it unleashes the political idea of 'nations on the move' (1986, 34). The idea of democratic revolution, according to Virilio, realizes itself as 'dromocratic revolution', a revolution of acceleration and speed. Gathering momentum, the state-as-war-machine spreads 'the state of siege of the communal city-machine, immobile in the middle of its logistic glaces and domestic lodgings, over the totality of the national territory' (1986, 14). A new order of time, space and state-as-war-machine is consolidated, specified synecdochically by Virilio as polis, police and highway surveillance (1986, 14).

Overstated and underspecified, Virilio's remarks on speed and politics in the modern era can be read as a different version of David Harvey's (1989, 1996) well known interpretation of the logic of time-space compression. Virilio's argument, however, is crucially different from Harvey's for its central motor is not the dynamics of economic capital accumulation, but the dynamics of military weapons accumulation. It is not the means of production that interests Virilio; it is instead the evolution of the means of destruction. Virilio's claims about the military power/knowledge/technology nexus are not modest. The very aim of strategic action, as Sun Tzu (1971) would agree, is to 'redefine the space' one's enemy 'must cross or the time he has to live.' This makes the practicability of war, 'the coherent plan devised in time and space that can, through repetition, be imposed upon the enemy,' 'not the instrument but the origin of a totalitarian language of History.' The dynamics of military accumulation consumes European states and then the world 'thus giving it the stature of an absolute takeover of world history by Western military intelligence' (1990, 17).

This paranoid vision of the state as war machine realizing 'an absolute takeover of world history' is expressed for Virilio in the concepts of 'total war' and 'pure war'. He traces total war to the rise of logistics as the significant dimension of military activity, finding that it begins first in the great naval powers of the early twentieth century. It also marks a new order of space-time where speed and manoeuvrability are highly valued: 'it is first waged on the sea because the naval glacies naturally presents no permanent obstacle to a vehicular movement of planetary dimensions' (1986, 50). The introduction of the tank by British forces on the Somme marked a revolution in speed and manoeuvrability on land, it being both an automotive fort and a terrestrial battleship (1986, 56). Another historic date in Virilio's schema is Joseph Goebbels's declaration at the fortified Sports Palace in Berlin on 18 February 1943 that 'total war' as a radical intensification of existing warfare will be unleashed like a 'storm' (1994a, 58). A key historic figure Virilio sees representing all of the tendencies he deems significant, from military technology to logistics to architecture, is Alfred Speer (1994a, 55-61).

The drift towards total war in the twentieth century has multiple consequences for twentieth-century civilization. It deepens the colonization of the social by the military so that distinctions between the 'civilian' and the 'military' become blurred. To be a citizen means acquiring 'a right to die' (1990: 79) as one one-millionth of a megadeath. It also intensifies warfare against the environment. Total war quickly leads to the ultimate dimensions of technologically feasible ecological warfare, wars against the built and natural environmental ecosystems that support one's enemy (1986, 75). Furthermore, it brings a new absolutism to political life and the dynamics of warfare. Because it mobilizes the whole of society in a gigantic logistically driven war effort, its goal becomes not simply to defeat one's enemy but to destroy his very identity and soul.

Warfare develops a qualitatively new character at the end of World War II. Hiroshima inaugurates a new era of nuclear warfare. And the earlier launchings by Germany of the V-1 cruise missile and V-2 rockets against London initiate the epoch of inter-continental strategic missiles. As the logistics of both these technological innovations became further refined, they helped constitute the Cold War system of global nuclear deterrence. To Virilio, the era of global nuclear deterrence is not 'total' or 'absolute', but 'pure war':

Deterrence is the development of an arms capacity that assures total peace. The fact of having increasingly sophisticated weaponry deters the enemy more and more. At that point, war is no longer in its execution, but in its preparation. The perpetuation of war is what I call Pure War, war which isn't acted out in repetition but in infinite preparation. Only this infinite preparation, the advent of logistics, also entails the non-development of society in the sense of civilian consumption.

(1983, 92)

Pure war challenges the very distinctions that have made warfare meaningful historically. It is neither peace nor war but permanent logistic struggle in which warfare preparations reorganize social and economic relations in order to secure 'peace' (Luke, 1989). As the Strategic Air Command said amidst the Cold War, 'Peace is Our Profession.' The distinction between offensive and defensive is no longer relevant (1991a, 131). 'War is no longer directly identifiable with declared conflict, with battles' (1990, 36) but with the speed logistics of nuclear vehicles:

The will-to-defense and the will-to-power are indifferently blended into a single amalgam ... The speed of violence becomes the violence of an unsurpassed speed, and the speed of light becomes the standard measure for war, in its context, its essence and its

nature. Pure war contributes to the inversion of all terms of power, as it leads each antagonist to the immediate reversibility of the conditions of the possibility of confrontation.

(1991a, 138)

Pure war is such because the logic of logistics in the age of deterrence has reached such a machinic level that humans are becoming less and less significant elements of the war machine.

Here, Virilio recognizes how thoroughly semantic the inter-operation of nuclear tactics, strategies, and logistics becomes within the world's mass media markets. Indeed, television and film prove to be the most pervasive mode of delivering nuclear payloads as their photographic effects are extremely fast, virtually unstoppable, and infinitely relaunchable. Even though most nuclear strategists admit that the heat/blast/radioactive yield of nuclear weapons cannot be used rationally in the post-Hiroshima world system, the delivery vehicles with payloads are operated every day in such a way as to give credibility to the photo-realistic powers of their deterrence yield (Luke, 1991). In typical overstatement, Virilio declares that 'pure war no longer needs men, and that's why it's pure' (1983, 171). In his paranoid vision, pure war marks a new level of the endo-colonization of populations by the logic, technology and time-space requirements of the nuclear war machine. 'The Russian-American realization of global nuclear deterrence is,' Virilio concludes in part of his work, 'a catastrophic process of total colonization' (1990, 34). This colonization of society and economy by military-industrial complexes – Eisenhower, credited with coining the term, is another historic figure in Virilio's schema (1983, 14, 93) – leads Virilio, as noted above, to claim that these tendencies will lead to economic stagnation ('non-development') and zero growth. While a somewhat glib prediction at the time, Virilio was not entirely wrong in suggesting that permanent war economies would stagnate certain states in Europe and elsewhere (1983, 93). The acute difficulties of the Latin American and southern European military-bureaucratic dictatorships in the seventies and early eighties and the Soviet Union and its allies in the late eighties can in large part be attributed to the economic, political and social contradictions induced by endo-colonizing militarism.

More provocative is a second consequence Virilio extrapolates from global nuclear deterrence as pure war: the disappearance of politics. As global nuclear war machines have elaborated an increasingly technological and machinic system of mutual deterrence, the space-time of politics has been radically reduced and compressed. As nuclear war becomes an increasingly electronic decision, there has been a loss in the duration of politics. Politics is reduced to the instance of launch code authentication in an era of attack on alert deterrence (1991a, 129–30). The time for debate and diplomacy, reflection and rethinking disappears (1983, 58). Like

Baudrillard, Virilio speaks of this as a condition of 'trans-politics' though he strongly states that he considers such a situation totally negative. 'It's the contamination of traditional political thought by military thought, period! ... It's not post-politics, it's not the end of politics, it is its continuation. It's completely negative. Trans-politics means no more politics at all' (1983, 144). Similarly, war becomes a transbellicose game as nuclear operations 'have also gradually taken on the aspect of large-scale electronic games, a *kriegspiel* requiring whole territories over which the various procedures and materials of modern war are reconstituted' (1989: 86).

Virilio's arguments in the 1970s and early 1980s about the system of Cold War deterrence are neither exceptional nor unique (see Sherry, 1996). In Great Britain, E. P. Thompson elaborated in a richer, materialist and more finely contextualized manner similar arguments about what he termed 'the logic of exterminism' found in the Cold War nuclear strategy of both power blocs. The Cold War, Thompson argued, had developed an exterminist logic of its own that was divorced from its origins and rational political decision-making. It had become a self-perpetuating system dominated by two mutually dependent military-industrial complexes. Weapons innovation within these blocs was self-generating, the impulse to 'modernize' and to experiment continuing independently 'of the ebb and flow of international diplomacy' (Thompson, 1982b, 5). The result was an exterminist culture, logic and momentum that threatened to push geopolitical antagonism 'in a direction whose outcome must be the extermination of multitudes' (Thompson 1982b, 20). Thompson's arguments were justly critiqued for technological determinism but the debate they provoked is much more conceptually nuanced than that found in Virilio (see New Left Review, 1982; Thompson, 1982a; Kaldor and Falk, 1987).

II. Territories warped by transportation technologies: the spatiality of speed

A provocative consequence of pure war that is more particular to Virilio is his argument about the eclipse of geopolitics by chronopolitics or the politics of time. Virilio equates geopolitics with the strategic value of territory whereas chronopolitics is associated with the emergent strategic value of telemetricity. The former's strategic value, he argues, has been declining while the significance of technological systems has increased. Space, he suggests, 'is no longer in geography – it's in electronics':

Politics is less in physical space than in the time systems administered by various technologies, from telecommunications to airplanes, passing by the TGV, etc. There is a movement from geo- to chrono-politics: the distribution of territory becomes the

distribution of time. The distribution of territory is outmoded, minimal.

(1983, 115)

At other points, he reads this tendency as the discrediting of 'geopolitical extensivity in favor of a *transpolitical intensivity* of exchange and communication' which has declinist implications for states as territorial entities (1991a, 92, emphasis his). The 'war of real time has clearly supplanted the war in real space of geographical territories that long ago conditioned the history of nations and peoples' (1994a, 206). 'Territory has lost its significance in favor of the projectile. *In fact, the strategic value of the non-place of speed has definitely supplanted that of place*, and the question of possession of Time has revived that of territorial appropriation' (1986, 133, emphasis his). Places disappear in a world delimited by the 'vehicular extermination' of the global nuclear war by virtue of deterrence machines (1986, 134).

These polemical claims by Virilio are certainly overstated, but they should not be underestimated. Virilio's opposition of geopolitics to chronopolitics is a crude and misleading one inasmuch as questions of technology, transportation and speed have always been central to geopolitical theorizing. The pivot in Halford Mackinder's famous 1904 'geographical pivot of history' paper is the relationship between physical geography and transportation technology or what he called 'mobilities of power' (Mackinder, 1904). The dominant mobility of power of Mackinder's pre-Columbian epoch was the horse and camel, the dominant drama the horseback Asiatic invasions of Europe and the ascendant region the landpower of the Asian steppes. In the Columbian epoch, the dominant mobilities of power lay with the most advanced seapower states which were able to construct vast overseas empires for themselves. In the post-Columbian epoch Mackinder envisioned, beginning with the disappearance of the last open spaces for colonial conquest, land-based mobilities of power, particularly railways, would supposedly be dominant.

Mackinder's schema was, of course, crude, sketchy and seriously flawed but it does illustrate how technologies of movement and speed have always been important in geopolitical theorizing. Virilio's equally sweeping speculations take Mackinder's mode of reasoning a step further when he questions the displacement of place by twentieth-century logistics:

What seems central to me is the question of place. In some way, place is challenged. Ancient societies were built by distributing territory. Whether on a family scale, the group scale, the tribal scale or the national scale, memory was the earth; inheritance was the earth. The foundation of politics was the inscription of laws, not only on tables, but in the formation of a region, nation, or

city. And I believe this is what is now challenged, contradicted by technology . . . Now, technology — Gilles Deleuze said it — is deterritorialization . . . Deterritorialization is the question for the end of this century

(1983, 142)

Just as total war inspired militarist dreams of a perfect arrangement of territory, and partly though unevenly realized these dreams in its fortress and bunker landscapes, so also has pure war incited visions of new strategic order and landscapes appropriate to it. The space-time of pure war is a strategic order where 'the violence of speed has become both the location and the law, the world's destiny and its destination' (1986, 151). As the name for terracentric orders of strategic knowledge, geopolitics has not disappeared but it is no longer at the heart of the war machine. As the name for the space-time problematic of war more generally, geopolitics is becoming intensively dromological. In the era of pure war, geopolitical space begins to warp under the gun of speed, for we inhabit accelerating times and spaces. 'We no longer populate stationariness; we populate the time spent changing place' (1983, 60). Yet, territory remains a unit of power's measure as weapons and ideologies mark their ranges in terms of distances travelled in time (1983, 116). So, we still have not yet reached his state of chrono-political nirvana, because there is still functional space somewhere, and this space still imposes a few constraints (1983, 166).

The speed-body of dromological societies reconstitutes the time/space of society's structuration and acculturation around the conditions of permanent mobilization. Their imbrication with living beings running at metabolic speed forces humans to accept automated perception, robotic reasoning, networked community, and computerized communication as part and parcel of any effective collaboration with other and non-living beings running at technological speeds (Castells, 1996). This techno-logistical supra-nationalism is totalitarian, and essentially irresistible. To be borne by these techno-logistics, all are reborn continuously and painfully with each new generation of techno-logistical complex which now hosts almost all human life.

Inhabiting chronopolitical acceleration rather than geopolitical space is not a liberation of movement but a tyranny of speed: 'The blindness of the speed of means of communicating destruction is not a liberation from geopolitical servitude, but the extermination of space as the field of political freedom . . . the more speed increases, the faster freedom decreases' (1986, 142).

In everyday life this tyranny of speed provokes a plethora of new social and political ills: overwork, burn-out, motion sickness, information overload, xenophobic nationalist *resistance* against the speeding flows of

globalization (Barber, 1996; Brook and Boal, 1995; Schor, 1992; Luke and Ó Tuathail, 1998).

III. Virtual insights and geographies: the spatiality of vision

One domain where the (con)fusion of war and speed must be fixed is intelligence, where visual rhetorics of command/control/communication detect and discriminate between fast threats and slow problems. Virilio argues that the vision machines of cinema, television and intelligence satellites often pre-map the spaces that war and speed will occupy, confirming Baudrillard's (1994) beliefs that models precede territory in our age of simulation. Ultimately, the media for Virilio operate as speed and war vehicles. Today, he suggests, 'Blitzkrieg' is more often fought as 'Fernsehenkrieg' in the total warfare of global media markets:

today, in order to create a *totalitarian Lebensraum*, it is no longer necessary to resort to extraordinary invasions with the motorized vehicles, tanks and stukas of lightning warfare, since one can use the *ordinary penetration* of the new media, the information blitz (1990, 70).

Much of Virilio's work explores the implications of mechanizing, automating, and virtualizing perception, particularly vision. In a world where videocameras coupled with digital scanners in networks of computers are empowered to verify human identities by sweeping their sightless vision over a person's eyeballs to authenticate subjectivity from retinal variations with digital heuristics, this project is quite significant. Virilio's insights, then, flow from 'the philosophical question of the *splitting of viewpoint*, the sharing of perception of the environment between the animate (the living subject) and the inanimate (the object, the seeing machine)', which leads, in turn, to the (con)fusion of 'the factual (or operational, if you prefer) and the virtual; the ascendancy of the "reality effect" over a reality principle already largely contested elsewhere' (Virilio, 1994b, 60).

Splitting sight, then, can paradoxically also split sites, creating reality effects of new spaces beyond, behind, between or beneath those ordinarily accorded to the principal geophysical/sociocultural spaces disclosed by the living subject's reality principle. Motorization and computerization by means of accelerating and virtualizing perception are generating their own hyperchronic or hypertopic properties, which, in the same way as nuclear deterrence has done with war, are transferring human activities 'from the actual to the virtual' (Virilio, 1994b: 67). Images of the real spaces of objects, data about the real properties of subjects, telemetry on the real-time behaviours of objects interacting with subjects now (dis)place/(re)place actual

observables with virtual non-observables whose reality effects are more real than the actual events experienced by those living subjects left out of the data streams or image flows. Such synthetic illusions, however, cannot be easily dismissed, because these virtual environments increasingly are where motorized and computerized subjectivities most materially now dwell.

The real space of the Iranian Airbus was neutral, the real properties of its passengers were peaceful, and the real behaviours of their flight were nonthreatening, but the Aegis-class battle-command centre aboard the U.S.S. *Vincennes* sensed non-observable menace in its battle-management datascares whose real effects necessitated the tragic shutdown (Derian, 1990). On one level, this event perhaps was merely a lethal accident, but on another level it marks a foreseeable collision of the actual and the virtual in the acceleration lanes of infobahn traffic. Speed rules, but speed also kills. Hypermotorization through actual space and/or hypermediatization through virtual space, as Virilio asserts, put reality effects on speed. It perverts 'the illusory order of normal perception, the order of arrival of information. What could have seemed simultaneous is diversified and decomposes . . . it is this intervention that destroys the world as we know it' (Virilio, 1991a: 100–101). Still, speed also recreates the world as we have not known it, but now these effects 'are preparing the way for the *automation of perceptions*, for the innovation of artificial vision, delegating the analysis of objective reality to a machine' (Virilio, 1995: 59) to explore its diverse and decomposed dimensions.

The media thrive on packaging and promoting not the war of all against all, but rather the wars of some against all and all against some (Cumings, 1992). When the world becomes one media market, as it is now, the cameras extend '*multiple solitude* to billions of individuals, the counter-culture of the (postindustrial, postnational, posturban) ghetto now spreading over the whole of the planet that cannot shake off its status as ghetto of the cosmos' (Virilio, 1995, 11). Mediatized by the dromologies of fast capitalism, the ghetto dwellers are 'the chaos that destabilizes mass media caught in the trap of the internal act of war, violation of human rights – the fascinating spectacle, endlessly replayed, of immolation and long, slow death' (Virilio, 1995, 11). The real-time fire fight, for example, of the North Hollywood bank robbery in February 1997 typifies the chaotic televisual consciousness of the spectacular fascia-nation eager to watch an assault upon itself in real-time on live heli-cam TV. Unable to work, two unemployed 'losers' in full body Kevlar attacked a bank in broad daylight. Botching the robbery, they brazenly remade *Dog Day Afternoon* in the street with AKs mounted with drum magazines. Spraying hundreds of rounds on police and by-standers, they wounded eight police and twenty ordinary citizens before being taken out by high-powered weapons borrowed from a local gun shop. For days, their long, slow, videotaped death displayed how internal war flares up in big-time media markets, as these bad guys,

like O.J. in his white Bronco, got their proverbial fifteen minutes of fame in 'live action cam' real-time video. After seeing their regular bullets bounce off criminals on live TV, the Los Angeles police subsequently acquired 600 M-16 army assault rifles to restore their televisual credibility by blurring the coercive lines between police and military force. On the surveillance screens of both institutions, territory has become a dramatic battlespace where 'operations other than war' nevertheless require techno-military techniques, methods and firepower.

The density of dromological systems, then, acquire their own quiddity, becoming in the last analysis features on the mediascapes of third nature (Wark, 1994). At this juncture, an entirely new virtual geography is needed to map their material infrastructures and effective ranges. For Virilio, the built environments of second nature – cities and towns – have not expanded as profusely as the conduits of motorization and mediatization:

If you want proof, you need only look at a map of the physical geography of France ... this one showing the totality – visible and invisible – of communication networks: canals, railways, airways, highways and, from the visual path of Claude Chappe's ocular telegraph to the electronic age, radar. We immediately realize that during the last two centuries of our history, the physical geography of France has completely disappeared under the inextricable tangle of different media systems; that *not only does delocalization occupy more territory than does localization, but it occupies it in totalitarian fashion* ... if, as NATO wishes, we strip every communications systems of [the] neutrality conferred on it by the notion of public service and make the whole thing entirely technological; then you will have before your eyes *the true physical body of the modern totalitarian state, its speed-body*.

(Virilio, 1990: 91–92, his emphasis)

Dromological existence is delocalized, mobilized, and instrumentalized living within the hyperchronic flow and hypertopic domain of speed. The totalizing reach of the media – electronic and machinic – represent for Virilio the inversion of Clausewitzian war reasoning, because the speed-body of the State must endocolonize its actual territoriality with virtual telemetricalities. Politics now is war carried on by other means, and the doctrine of security founded upon this recognition leads to 'the saturation of time and space by speed, making daily life the last theater of operations, the ultimate scene of strategic foresight' (Virilio, 1990: 92). And, victory in these internal wars comes in fully mediatized forms; indeed, '*beating an enemy involves not so much capturing as captivating them*' (Virilio, 1995: 14, his emphasis). So the heavy artillery of the modern totalitarian regime fires advertorial pitches and infomercial rhetorics out all of its tubes in

commodified imageries of communion, desire, and power (for a battlefield conceptualization of this as 'shock and awe' see Ullman *et al.*, 1996).

Thinking geopolitical space with Virilio is a re-thinking of the modern geopolitical gaze under erasure by technoscience and its speeding vehicular technologies (Ó Tuathail, 1997). For Virilio, 'speed is less useful in terms of getting around than in terms of seeing and conceiving more or less clearly' (1994b: 71). The split viewpoint of actual materiality and real virtuality turns all of lived/embodyed space–time into evasive manoeuvres or decoy effects, causing the principle of relative illumination (biophysical sight in optical range or radioelectric images looking over horizons/through matter/back in time) to shift. Consequently,

the time frequency of light has become a determining factor in the apperception of phenomena, leaving *the spatial frequency of matter* for dead. ... Today 'extensive' time, which worked at deepening the wholeness of infinitely great time, has given way to 'intensive' time ... this *relative difference* between them reconstitutes a new real generation, a degenerate reality in which speed prevails over time and space, just as light already prevails over matter, or energy over the inanimate.

(Virilio, 1994b, 71–72, his emphasis)

Hence, vision must be supplanted by the coming 'vision machine', whose characteristic qualities surpass the sighting of observables or non-observables with a sightless vision that senses stealthier image energies or digital effects as instrumental cities. Such active machinic optics 'will become the latest and last form of industrialization: *the industrialization of the non-gaze*' (Virilio, 1994b, 73, his emphasis) as machinic sensors generate perceptual feeds of observed energy, image space or figurative matter to represent sights and sites. Thus, in worlds of speed, 'we urgently need to evaluate light signals of perceptual reality in terms of intensity, that is "speed," rather than in terms of "light and dark" or reflection or any of the other now dated short-hand' (Virilio, 1990, 74).

Realities of space and time for Virilio, therefore, become relativities between phenomena illuminated or not by transparent lighting effects. Time warps and space distorts, leaving zones of communicating space for light to traverse marking duration absolutized. That is, photo-graphs, or light writing, now describes/enscribes geo-graphs, or space writing. To Virilio, 'if the path of light is absolute, as its zero sign indicates, this is because the principle of instantaneous emission and reception *change-over* has already superseded the principle of *communication* which still required a certain delay,' and so these new forms of constant light energy 'help modify the very definition of the real and the figurative, since the question of REALITY would become the PATH of the light interval, rather

than a matter of the OBJECT and space-time intervals' (1994b, 74). So 'chrono-politics', the powers of time, apprehended as speed effects, sublimate 'geo-politics', the powers of space, understood as spatial extension.

These interpretations of the vision machine are fascinating, but the fixation on tendencies – in light, speed, war – can be seen as almost fetishistic. Virilio's photofetishism, at times, bleeds off into wild hyperbole. To underscore what he sees as the remarkable changes of speed, for example, he asks us to forsake our cosmological principles, and embrace *illumination* as the force that creates everything. So, 'the center of the universe is no longer the geocentric Earth or anthropocentric human. It is now the luminous point of a helio-centrism, or, better yet, of a lumino-centrism, one that special relativity helped install, whose uncontrolled ambitions derive from the purposes of general relativity' (1991a: 43). Therefore, true consciousness of what is to be done follows from 'subliminal light, the light of the velocity of light that illuminates the world, in the instant in which it offers up its representation' (1991a: 62), and, thus, 'this matter-light – the energetic perception of the contemporary cosmos – replaces the *ether* of earlier physicians and metaphysicians' (1991a: 64). Not everyone, of course, can accept Virilio's revelations that 'In the Beginning, there was the Flash.' This fetishized photo-dictive dimension does not alter as many material realities as Virilio imagines, because at the end of the day there are still very real material machineries, discursive exchanges, and living populations coping with the messy realities of what he dismisses as 'the de-realization of the world' (1991a: 42).

The significant point resting within Virilio's exaggerations is that speed subliminalizes much of human vision, rational reflection, and normal consciousness. Future shock mostly is a motion sickness stemming from 'the rapidity of images and signs in the mirror of the journey, windshield, television or computer screen,' which simplify and distort 'the dromoscopic vision of the world' (Virilio, 1991a: 86) accelerating ahead towards hypermodernization. Power, then, can no longer simply see panoptically, and thereby enforce its disciplinary designs; it must, instead, more than ever 'fore-see, in other words to go faster, *to see before*' (Virilio, 1990: 87). Risk assessment, game theorizing, operational simulation all are dromoscopic experiments, seeking to reposition state agency systematically in a partially anticipated future so that it might enact its designs as it tried to foresee them. Such chronometric manoeuvres usually fail, but risk analysts do everything in their power to transform the positive probabilities of their simulated scenarios into self-fulfilling prophecies.

Conclusion: the end of geopolitics as we know it

For students of geopolitics still clinging to the notion that territoriality is power and hegemonies are built upon its resources, Virilio's recent varia-

tions on his ascendant chronopolitics theme identify a networked condition of 'omnipolitanism' as the successor to states, citizenship and territoriality (1997, 75). Reprising familiar themes Virilio argues that the face of society is becoming teleface, the settled history of nations a flux of transitory media representations, while citizenship is overshadowed and overcome by contemporaneity (1997, 74). Politics is eclipsed by technology as citizens separate out into either caches of netizens networking in the fast lanes of the global economy or the trashbins of lumpen techno-proletarians stuck at the dead ends of networks.

The real space of national geography and the world space of geopolitics gradually are giving way to the real time of international communications and the world time of chronostrategic proximity (1997, 69). Old military and industrial complexes will be superseded by informational metropolitan complexes 'associated with the omnipotence of the absolute speed of the waves conveying the various signals' (1997, 83). Instead of the cosmopolis modelled on ancient Rome, a new world-city will surge forth, a hyperconnected omnicropolis whose major defining characteristic is the interconnected global stock exchange. Typically, Virilio's argument is a more extreme technological vision of the literature identifying the emergence of an interlinked system of global cities (Sassen, 1991; Taylor, 1996, 186–88). Urban areas are becoming delocalized 'cities of bits' while the architecture that counts is increasingly the architecture within computers, information systems and networks (Mitchell, 1995). Concrete presence is fading in the face of the telepresence offered by information superhighways, real-time video transmissions and planetary networks of perpetual communication. The 'metropolization that we should fear for the coming century involves not so much concentration of populations in this or that 'city network,' as the hyperconcentration of the *world-city*, the city to end all cities, a virtual city of which every real city will ultimately be a suburb, a sort of *omnipolitan* periphery whose *center will be nowhere and circumference everywhere*' (1997, 74, emphasis in original).

This tendency is extremely dangerous from Virilio's point of view for it makes more likely the possibility of a general accident, a delocalized global event of irresistible force, like a stock market crash, which he compares to an informational Chernobyl. A disturbance or failure in one part of the omnicropolitan network has implications for all, bringing with it the possibility of a generalized technological and therefore social crash almost immediately. The post-geopolitical world of the hyperconnected global cities blending into one invests power in networks of computers which can break the central bank of any state and wreck its best laid defences. Precariousness is the new law of an international politics under the rule of real-time networks.

Virilio's recent writings continue to develop themes in his work established decades ago. Undoubtedly a creative theorist of what can be

described as the *postmodernization of geopolitics* (Ó Tuathail, 1998), his analyses have an intriguing and seductive appeal. Yet, in analysing tendencies, disturbing and otherwise, in the technoculture of postmodernity, Virilio is also deeply complicitous with the tropes of digital culture, with its apocalyptic visions, its sound-bite futurism, and normalization of hyperbole. His analysis is often as unrestrained as the tendencies he describes and condemns. The significance of geopolitics may appear to be fading for some; yet, as Bosnia, Rwanda, Taiwan, Kashmir and numerous other places remind us, its heavy hand still shapes life and death across the planet.

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