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Editorial

Speed

By Bob Hanke

The 20th century symbol of urgency is undoubtedly the 'doomsday clock' that made its first appearance on the cover of the *Bulletin of Atomic Scientists* in 1947. With its hands set to seven minutes before midnight, it signaled imminent danger to world civilization. We were only a few minutes from extinguishing enlightenment time and plunging humanity into a post-nuclear war eternal dark age. Since then, the 'doomsday clock' has been reset to measure our proximity to the event of total atomic warfare. After the collapse of the Soviet Union, it was set to fourteen minutes to midnight. In 2002, the 'doomsday clock' was reset to its 1947 position. As far as progress towards nuclear disarmament is concerned, no time had passed between 1947 and 2002.

Paul Virilio was 15 years old in 1947. Living most of his life until his retirement in Paris, Virilio's disposition and work was profoundly shaped by the Second World War. At age 10, he experienced the destruction of the city of Nantes. While the architecture of German military bunkers gave impetus to his early theoretical writings, the Blitzkrieg (lightning war) is the arc that travels across Virilio's career. Indeed, for Virilio, the Second World War has never really ended, it has only mutated into pure, info war. More than anyone, he has thought about war as the fabrication of speed, and about the essence of war as a war against time. We have passed, Virilio believes, from an order of linear time inscribed within a myth of progress to a new temporal regime of 'timeless time' where time does not pass and global nuclear accidents or – in the case of 9/11, accidents merged with attacks – are probable. His discourse has generated uncanny and trenchant insights into new weapons technology, vision machines and our perceptions of reality. Perhaps the first decade of the 21st century should be known as Virilian.

Paul Redhead's *Paul Virilio: Theorist for an Accelerated Culture* explains and analyzes Virilio's ideas and applies them to the analysis of media events and popular culture. Redhead traces the historical development of Virilio's thought in order to rescue him from present-minded, hasty misreadings and misinterpretations. Virilio's books, with their abrupt, jump-cutting statements, can be read as saying that new military technologies set history in motion and have made the modern condition. Reading Virilio's account of technologically-driven change, which emphasizes how every technical invention fabricates acceleration and invents accidents, Redhead is careful not to rush to the conclusion that contemporary culture is merely the consequence of the speeding up of modernity. He is quick to note that speed is relative, that delays happen, and that the same technological changes in different cultural contexts exhibit varying speeds. There is also more to Virilio's story than speed. Acknowledging the tentative, fragmentary nature of Virilio's thought, Redhead introduces the concepts of accelerated, dangerous, and critical modernity to bring Virilio's distinctive critical thinking into focus, demonstrate its value, and define its problems and limits. On the one hand, these concepts enable Redhead to organize his critical survey and to differentiate Virilio from other theorists with whom he has been compared. On the other hand, these same concepts tend to divide Virilio's discourse into thematic clusters that do not exist in his texts. Redhead's map of Virilio's critical trajectory is less than ideal but it still provides a valuable introduction and user's guide. And now that most of Virilio's major texts have been translated into English, readers who feel they are missing something can also refer to the extracts of his life's work put together by Redhead in *The Paul Virilio Reader*.

The first chapter – "Remember Virilio" – discusses the early Virilio. In the 1990s, the speed up of his books and interviews, the publication of *The Virilio Reader* (1998), edited by James de Derian, and the special issue of *Theory, Culture & Society*, edited by John Armitage, created a minor Virilian scene. Redhead believes, however, that the more he was cited, the more what he said, and when he said it, "remains a mystery to many who use his name" (2004a: 12). To set his intellectual historical record straight, this chapter focusses on the neglected period of the 1950s and 60s and the influence that religion, war, contemporary architecture and French post-war politics had his work. He discusses Virilio's identity as a catholic militant, his Christian existentialism, his version of materialism, his interest in social reform and aesthetics, all of which inclined him towards unconventional, dissenting thought. Although Virilio would become known for "dromology" – the study of speed – Redhead reminds us that "the link between these poles – of inertia and speed – does not disappear from Paul Virilio's theoretical landscape and is ever present in his thinking" (2004a: 16).

Redhead describes how Virilio's personal experience of the Second World War gave impetus to his early studies of the architecture of German war bunkers. We learn that it was not only the anti-aircraft bunkers that interested him but the coastal region, as an "interruption, an interface...places where things are exchanged, transformed". His "bunker archaeology" expressed an interest in military space ("Fortress Europe") while his "Cryptic Architecture" concerned how bodies are "placed through their orifices of communication in contact with the place – through the median zones of clothing, second 'portable' architecture, and objects..." (2004b: 16). Indeed, the idea of a body in motion in relation to space and time – "habitable circulation" – was at the core of his radical architectural theories for post-industrial cities. But the failure to translate these theories into architectural practice led Virilo to shift his research focus from space to time: "to diverse phenomena of acceleration in this era of the 'global village', from TOPOLOGY to DROMOLOGY, i.e. the study and analysis of the increasing

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speed of transport and communications on the development of land-use" (2004b: 23). However, the political events of May 1968, the climate of Situationism and the influence of the Italian Autonomist movement, brought an end to Virilio's architectural experiments with Claude Parent and marked the beginning of a new phase of his life and work.

The second chapter – "Accelerated Modernity" – unravels Virilio's study of speed from the 1970s onwards. According to Redhead, there is no "epistemological break" between his early and later work. Although Virilio has become known as "high priest of speed", he has examined different dimensions of speed within modernity. At the same time, there is more to his work than speed effects. Redhead suggests we might see Virilio as a "genealogist of motion". The mobility and proprioception of the living body in relation to territory, rather than the laboring body of Marx, or the docile body of Foucault, is fundamental. For Virilio, the moving body is the measure of our habitat and "new technologies make habitation possible without moving" (Virilio in Redhead 2004a: 42). At modern speeds of transportation and communication, the mobility of the locomotive body reverses into lived sedentariness – what he calls "polar inertia". Here Redhead discerns a sense of "paranoia and claustrophophia" in Virilio's position on the body and human nature, which is "pre-technological" and pre-exists "the formations of sexuality and the social" (2004a: 159). We might unpack Virilio's demobilization thesis a bit further. Virilio proceeds from the notion of our territorial, animal body and assumes a law of least physical effort. When technological speed overtakes metabolic speed, physical effort is reduced while our animal body is devalued, 'handicapped' or rendered useless. Witness the person who steps onto an escalator and stops walking. But there is more at stake than personal mobility and energy use. In Virilio's evolutionary scheme, the human species has proceeded from domesticating animals to domesticating the 'animal body' of workers or citizens into great, souless, military rather than democratic, mobilizations. Mobility is also enhanced by transportation and audio-visual vehicles, but not without changing the experience of travel or the tempo of everyday life. For Virilio, the use of mobility refers to ergonomic behaviour, the mobilization of people into military duty, geographic, physical and information mobility (Berland 2005).

If Virilio had limited his interest in speed to military technology and warfare, he might have been of interest only to military historians and strategic studies. Redhead argues that Virilio's work best fits the theorization of accelerated culture within 20th century modernity because he has provided an explanation of how global society works. Speed is central to transportation and communication, and communication at the speed of light is as integral to world warfare as it is to global capitalism. Speed is fabricated by the machinery of culture; the techniques for handling, recording, storing and transmitting information induce speed. For Virilio, "speed is a milieu" for creating global wealth and world vision; or, as Jacques Derrida (1984: 21). once put it: "Capitalization – or capitalism – always has the structure of a certain potentialization of speed".

Redhead shows how Virilio's writing pours over the flotsam and jetsam of accelerated culture, its historical origins, and moral and ethical questions of the good life and society. One characteristic stands out: the hyper-violence that emerged in the domain of war – Auschwitz and Hiroshima – and the domain of technology. When a new generation of weapons and spectacles of mass destruction went on display in the second U.S.-Iraq war, Virilio continued to focus on the effect of the technological 'generalized violence of acceleration.' Virilio has made many other claims about what is disappearing, being taken over, replaced or eradicated within an accelerated culture; for example, geography, history, territorialities, duration and delay. By the late 20th century, Virilio was convinced that we were living in the sphere of Einstein's theory of relativity. For some, this may put the question of time and space beyond the threshold of human perception and everyday experience, but for others, this puts the question of information moving at the speed of light, along with mass and energy, into the heart of matter. While he may have brought theology and astrophysics too close together for cultural studies of everyday life, Virilio has tried to keep pace with the cultural consequences of technoscience, which has narrowed, if not closed, the gap between physics and technics.

While speed and technology is central to his discourse on the accelerated complexity of modernity, the theory of the image and the culture of vision has been an important parallel tracking shot. With *The Aesthetics of Disappearance* (1991), Virilio addressed the shift from appearance to disappearance with the acceleration of the still image. With the cinema's illusion of motion, perception is revolutionized and "[t]hings exist even more so because they disappear" (Virilio in Redhead 2004a: 62). In *War and Cinema: The Logistics of Perception* (1989), the speeding up of vision machines is geared to the war machine as the histories of photography, cinematography and weaponry converge, making World War I the first war film.

Redhead does not consider Virilio's contribution to image theory, or his decorporation of the eye thesis, nor does he compare Virilio's aesthetics of disappearance to other theorists of the visible and invisible, ocularcentricism, or image wars. He points out that *War and Cinema* is one of his most cited books, but underplays its significance and implications for further research into visual cultural studies. In the context of visual technology history, Virilio's essay on the use of cinema techniques in war provides us with a relevant pre-history of documentary filmmaking. Balloons, planes, and photography were used to expand the battlefield of perception; to see at a distance, and not be seen, became essential to attack and survival. Harun Farocki's documentary film *Images of the World and Inscriptions of War* (1989) extends Virilio's analysis by showing that what you are able to photograph at a safe distance may not be what you see. In 1944, an Allied aircraft took topographic photographs of industrial complexes that might serve as bombing targets, but military interpreters failed to recognize that they had an aerial survey of the Auschwitz concentration camp. *War and Cinema* tracks the perfection of the means of electronic war from Vietnam to the use of 'video missiles' of the Gulf War. If World War II marks the beginning of the derealization of war, Virilio described the scenario for an optico-electronic war in which victory and defeat would be played out on military command and control screens and civilian television screens in real, global time.

His descriptions of the coming "robot war" are uncanny. Today, prototypes for pilotless bombers and cyberwarriors plugged into satellite-linked dataveillance networks and global positioning devices are being tested. For Virilio, it is this revolution in the logistics of perception that makes military technology the last art. For all of these reasons, *War and Cinema* is a seminal text for scholars of visual culture and history.

As Redhead observes, dromology becomes the dominant self-description of what Virilio has been up to since the publication in 1977 of *Speed and Politics: An Essay on Dromology*. This book was his first and last general theory book, so this is as close as Virilio came to describing the social formation of a "dromocratic society". *Popular Defense and Ecological Struggles* (1990) was an attempt to correct misreadings of *Speed and Politics* by Italian Autonomists and to enter into debates over the military aspects of left-wing politics. Here Virilio draws upon Clausewitz and Sun Tsu to address military strategy, the state, capitalism and colonialism. Contrary to Marxist or Weberian theory, Virilio argues in *Speed and Politics* that militarization undergirds proletarianization. In *Popular Defense and Ecological Struggles*, he writes:

> What developed in the battlefields of foreign and civil wars was not only the discipline of intelligence and bodies, the elimination of individual conduct, but also the entire ethic of the industrial world and its pseudo-revolutions. Thus, we must never lose sight of the very reason for the historic rise of the military-industrial proletariat, the 'trade union school of war': the army-State's search for pure power, for pure energy… . In this sense, the proletariat's determining role in history stopped with the bombing of Hiroshima. (Virilio in Redhead 2004b: 51-2).

The war of movement which characterizes inter-state conflicts must mobilize the slow military masses by "an increased effort in the technical domain, an effort centered on the suppression or replacement of the human factor in the machine's overall workings" (Virilio in Redhead 2004b: 51). In 16th century Europe, a colonial strategy begins to govern the exchange of violence and "differences are drawn between those populations capable of providing war with the infrastructures of its

conductivity (literally, its *media*); and the subjected, underdeveloped others, chosen for their inaptitude at maintaining this level of violent exchange" (Virilio in Redhead 2004b:53, italics in original). By 1914, the proletariat stopped being the motor of history. The mode of production of war is the real motor of history: "The historical effort of the West is thus the distribution and management of independent, increasingly numerous groups by the State war enterprise" (Virilio in Redhead 2004b: 47-48). Today's "autonomous terrorists" are often yesterday's US funded and trained fighters.

This brings us to the issue of Virilio's own political commitments and readings of politics. Redhead notes Virilio leaned towards social reform and the plight of the homeless and the poor rather than party or social movement politics. While Virilio has been an "astute observer of world politics" since the 1970s (Redhead 2004a: 58), he is also an academic who remained "unconnected to any of the currents in French, and indeed wider, European, politics" (Redhead 2004a: 157). Virilio's liberal humanism is anchored in Christianity and phenomenology but he is a "realist" when it comes to science and the human body. He also has described himself as 'urbanist', a 'democrat' and 'citizen of the world'. Although he was not linked with new left activism and did not believe in Revolution, he deemed it urgent to analyze the military institution or risk "failing (voluntarily or not) to effect the most necessary de-institutionalization of all: that of the military" (Virilio in Redhead 2004b: 55). Redhead notices Virilio's Catholic-based 'anti-statism' more than his anti- 'military socialism', but it is evident that one size of 'politics' does not fit him. I would say that there is a close proximity between Virilio's academic work and what Pierre Bourdieu has called "scholarship with commitment" (Bourdieu 2003), but instead of firing back against neoliberalism, he has fired back against the "theory of war as the geometric basis of all reality" (Virilio in Redhead 2004b: 52). Although Redhead points out that the state and power are problematic concepts in Virilio's work, we should not be afraid to enlist Virilio in the pedagogy of politics; indeed, students can stop collaborating and join the resistance today by doing Virilian readings of contemporary US military culture.

Cut to American Defense Secretary Rumsfield's office, where he is standing at his desk. His techno-entrepreneurial strategy for toppling the government of Iraq required abandoning the army's perspective on the military labour needed to secure the territory after victory in favour of deploying only those units necessary to rapidly advance upon Baghdad by using Special Operation's Units and advanced technoscientific weapons such as Unmanned Aerial Vehicles.

Decreasing the mass of soldiers and increasing the velocity of ground forces led by air force, the battle was reduced to three weeks while the war against "insurgents" continues, at the time of this writing, indefinitely with growing numbers of civilian and military casualties. Rumsfield's gambit was that a militarized proletariat would not wear out before their service contract expired and the US brand of instant 'democracy' (an election, a constitution, and an International Monetary Fund package) could be exported to the bombed and beleaguered Iraqi people. As Peter Sloterdijk has imagined, Operation Iraqi Freedom was only missing one piece of military paraphenalia— the dropping of an 'inflatable Parliament' in the middle of Iraq (Sloterdijk in Latour 2005).

In "Dangerous Modernity," Redhead addresses Virilio's vision of the dangerous consequences of accelerated modern culture. Where we may perceive technological change and social progress, Virilio sees the invention of accidents and disaster and the end of a world. The post-cold war era meant the end of nuclear deterrence so the possibility of atomic war between old and new members of the nuclear arms club still hangs over our heads. But after 9/11, U.S. foreign policy and military power implemented the doctrine of perpetual, preemptive war against future "terrorist" attacks. This state of organized chaos in between war and peace has been on Virilio's radar a long time. During the 1990s, Virilio was an astute commentator on war and terrorism, yet Redhead shows that this topic does not exhaust his analysis of dangerous modernity.

What is Virilio's diagnosis of modernity? Neoliberal triumphalism and technological evolutionism aside, Virilio disputes those who contend that we have reached the end of history or of the human. For Virilio, what has been coming to an end is the "body proper" and the "world proper" – our contact with other humans and our orientation to the earth. Redhead reads this as nostalgia and paranoia but this may be too easy. To be sure, Virilio is challenging technofundamentalists and technotopians by overexposing technology's 'negativity' but he does so in the name of an "ethics of perception" and the values of a "grey ecology". What has come to an end, after the communications revolution constructs our "critical space" and our "landscape of events" is a certain spatiotemporal regime. "The common denominator", as Redhead sums up, "is that 'space has become temporal' and the technology of media culture is central to this process" (2004a: 81). The more we live amidst the vectors of a virtual geography, the more our forms of life are disembedded from human time-space, the greater the probability that accidents will happen everywhere at the same time. Virilio's de-localization thesis does not concern itself with our sense of place, identity, or community, but the replacement of urbanization by the 'world city' and the replacement of traditional, industrial war by a virtual, cyberwar that never ends. While military and media technologies have been speeding up for some time, the second US Iraq war achieved the complete synchronization of military intelligence and civilian news media vectors in real-time. The consequence, in Virilio's view, is that history is no longer tied to local geography or bounded architecture but synchronized with one world time. This means that media representations are not just constitutive of the event, but have entered into the time of the event. What CNN provides is not a first draft of history, but rather 'live' newsflashes of history followed by other 'mediated blitzes' and so on.

Redhead notes that Virilio's portrayal of this mediascape does not correspond to any known method or social science theory. Virilio approaches the 'truth of history' by trying to keep pace with fast international news about current accidents, events and incidents. Focusing on atypical events between 1984 and 1996, *A Landscape of Events* (2000) plays events backwards to give an impression of accelerating reality. Positioned in between the essay and narrative history, it attempts to reform general history by stepping back from atemporal perspective and forwarding into the fractal history "of the limited but precisely located event" (Tschumi 2000: xi). Virilio paints a landscape where social space has become temporal and immediacy prevails over temporal depth. The form of this book enables us to feel that "society has become entirely a function of time, and that duration has become a conjunction of simultaneities" (Tschumi 2000: viii).

If, for Virilio, the era of accelerated culture and total war began with World War II, a new era begins with 9/11. Historically speaking, after mechanization, motorization, and automation comes cybernation, and a whole new mode of destruction. Total atomic war has not happened, but World War IV, though not declared, is already happening. Virilio attempts to relocate the source of our fear from 'radioactivity' to media 'interactivity', from the possible explosion of the atomic bomb, which destroys physical matter in an instant, to the undeterred implosion of hyperspeed that deprive us of decision-making time, and thus, moral responsibility and political choice. War has become an automated, autonomous zone in orbital space; at the same time, terrorism has mutated into 'large scale terrorism.' On the one hand, this makes a large-scale cybernetic accident probable; on the other hand, it also means that events and accidents will converge in the real-time, live mediascape.

While Virilio has actually written very little about what happened on 11 September 2001, Redhead usefully applies a Virilian perspective to the attack on the World Trade Centre. In this attack, the accident and the attack merged. The attackers, armed only with box-cutters, hijacked two planes and turned them into weapons by crashing them into the twin towers of integrated world capitalism. Virilio's thinking about accidents, terrorism and media enables a twofold conclusion about a possible "One Man=Total War" scenario: first, large-scale attacks can now be carried out by a small group with minimal means, and second, the attacks can be timed to be seen (and reseen) as 'live', real-time television by billions of TV viewers. Redhead also reveals that there is more to this tragic, spectacular event than meets the eye. There are fascinating links between 'reality-based' computer games and this event. Video and simulation, video and accidents, have their own longer history.

With the advent of multimedia "interactivity", Virilio believes TV as a

cultural form is dead, but the TV screen functions as an "actual museum of accidents"(Virilio in Redhead 2004: 102). Redhead describes how Virilio's dream of a museum of accidents was finally realized in the form of an exhibition – entitled *Ce Que Arrive* – in order to preserve 9/11 and other disasters and explode the ideology of progress. Thus, the dromocratic society is also the society of the accident: "A society which rashly privileges the present – real time – to the detriment of both the past and the future, also privileges the accident" (Virilio in Redhead 2004b: 256). If the concept of time has changed, so has the concept of the accident. No longer local and specific, accidents are integral – global and general. 9/11 was both a local catastrophe and a global media spectacle and tragedy. Virilio follows ancient Greek philosopher Epicurus here: 'time is the accident to end all accidents'.

Chapter four – "Critical Modernity" – situates Virilio's extrapolation of Sun Tsu's 'art of war' into the 'art of the accident' in relation to debates about postmodernism and postmodernity. While a consideration of postmodern culture depends on understanding accelerated culture, Redhead argues that Virilio is a modern, not a postmodern, critic of the 'art of technology.' At the core of Virilio's aesthetic thought is the idea that changes in form of art – the 'art of the engine' – means changes in speed, representation and ways of seeing. According to Redhead, Virilio's aesthetic and cultural politics is past 'post' theory.

While totalitarianism and terrorism have been abiding issues in his work, it is the fate of the city in the second half of the 20th century that is a major matter of political concern. Virilio posits that "the city is the major political form of history" (Virilio in Redhead 2004a: 111) but this, Redhead notes, does not make him a postmodern geographer. For Virilio, urban habitation, circulation and trajectory is sociopolitical being, since the 'real city' is site of the social body and the place where public spaces, gatherings, and images converge. With the coming 'virtual' or 'cyber' city – already prefigured by tele-cities – public space is supplanted by public image. The new Dundas Square in Toronto is a perfect example of a deurbanized, privatized, commercialized and mediatized space that extends the suburban commercial television environment into the deregulated downtown of the post-industrial city. If the virtual world city "delocalizes work and our relationship to others", Virilio imagines the coming city as a place for human habitation and communal life. Redhead acknowledges that Virilio's writing about urban conflict sounds like traditional urban geography and sociology; moreover, his emphasis on disorder, disorganization and disintegration echoes more conventional criticisms of the modernist city.

The struggle Virilio brings to light is not class struggle over the production of urban space but the struggle between metabolic speeds (biological speeds), the speed of living (social speeds) and technological speeds (death). Virilio believes that if the information bomb accidented history, the 'transplant' revolution and the genetic bomb, in the name of improving humanity, will accident the human race. We have never been postmodern nor can we become posthuman. Virilio cannot envision life after modernity, or post-human hybrids of human and machine. With the fusion of biology and technology, and the confusion of genetic and digital codes, the race to genetically modify living organisms represents the technoscientific colonization of evolutionary time in order to control the future of successor bodies and environments. For Virilio, the 'new eugenics' is a war against the human race carried out by extreme biological science, like the stage of human history, discrimination and control depicted in the science fiction film *GATTACA* (1997).

For Redhead, one problem is that Virilio has "sometimes been bracketed with his more famous countryman and friend Jean Baudrillard as a 'postmodern philosopher'" (2004a: 115). Against such interpretations, Redhead rightly insists it is best to trace the actual influences on Virilio. In terms of critical modernity, this focus begins in the 1960s with Virilo and Parent's attempts to bring a new critical inflection to modern architecture. For Virilio, Merleau-Ponty and existentialist psychology more than Marx has been a major influence, but Redhead does not delve into Virilio's phenomenological roots. Virilio's ideas also developed outside of Sartrean existentialism, structuralism, deconstruction, and postmodernism but Redhead does not delve into the pre-modern, ancient ideas that Virilio is so fond of recollecting and quoting. Moreover, there is no discussion of Virilio's conceptualization of geometric space, which undergirds his conceptualization of "reality" and the hyperconcentration of time (Cook 2003).

To prevent Virilio from being misconstrued as a "postmodernist", Redhead's strategy is to compare him to Jean Baudrillard. What distinguishes Virilio's critical modernity is not merely different readings of the same Gulf War; they also diverge on the question of image and reality. Virilio's analysis of war and speed is accompanied by moral (religious) and ethical judgement. Where Baudrillard sees a simulation of reality, or hyperreality, Virilio sees new technologies substituting a virtual reality for an actual reality. In Virilio's duplication of reality thesis, virtual images begin to shape real objects. Redhead leaves it to the reader to decide which analysis of the real is more radical. Another key difference is that Virilio fights "against the disappearance of politics" (Virilio in Redhead 2004a: 120). He affirms modern democracy and its institutions against dromocracy, against the tyranny of real time. If democracy requires time, if political decision-making requires duration, accelerated politics threatens to make politics disappear and totalitarianism reappear. There is a justice of economy, wealth and speed. In this context, Virilio believes we are still free to choose between collaboration and resistance. Redhead observes that Virilio's politics appear to be more radical in the neoliberal 1980s and 90s. We might also say that what makes Virilio's thought radical is his determination to analyze the temporal equivalents of spatial globalization, his bid to radicalize the politics of time, and willingness to take a chronopolitical stand in order to defend zones of existence not reducible to empty, homogenous, time. His is a Bergsonian plea for 'real time' as the engine of duration rather than a precession of images of 'instants'.

New, post-print, technologies are often linked with the decline of book reading and the rise of a post-literate public mind that passes through electronic or digital media. Virilio holds the modernist belief that the critical mind still has time to pass through the discursive medium of books, so his response to speeded up worlds of writing and reading has been to produce short, rapid works that overlap with each other. In the final chapter, Redhead takes stock of the problems with Virilio's work. The first problem is that if Virilio's life work were published in chronological order, they may not have said that much. If that is the case, perhaps we should forget Virilio. Redhead says this is not so easy, even if his aphoristic, imagistic, abrupt style is an obstacle for some and his short books may still be unconventional in the humanities and the social sciences. But where is it written that length is a measure of quality?

Another problem Redhead identifies is the absence of popular culture. But even though he has concentrated on high or serious culture, Redhead makes this problem disappear by crediting Virilio's writings with playing a major role in the subdiscipline of law and popular culture. Work on accelerated youth culture adapted his 'pithyness' in order to make sense of British acid house and rave culture and their successors. The life cycle of underground and overground popular music seemed to approach 'Pop time '– the Virilian 'instant present'. But if Virilio's contribution to understanding youth culture is very cryptic and reiterates an 'infantalization' thesis, we should not be that disappointed. His own youth, after all, was shaped by World War II and religion. If Virilio had little to say about the popular culture of the 1960s, 70s, and 80s, his concerns for the body, movement, and speed at least enabled him to appreciate the significance of 1990s popular music and dance trends. Virilian traces and tracks, Redhead maintains, are indications of his relevance to cultural studies even if it is up to others to follow up and fill in the gaps with greater specificity.

Following Redhead's logic that Virilio has made important contributions by taking on what others leave out, one could also argue that his works are also relevant to studying "informational culture" when informational dynamics are prioritized over the formation of meaning (Terranova 2004). Even though she does not cite Virilio, Terranova (2004: 66) states: "From many points of view, an informational milieu resembles more an open battlefield of asymmetrical warfare conceptualized by post-cold war military strategists than a capitalist paradise". This would meet with Virilio's approval. He has analyzed technology and events erupting within close circuits of information and military power outside the tradition of cultural studies that has foregrounded signification, articulation of meaning, and context. Redhead (2004a: 148) remarks that

"it is a salutary lesson that Virilio, however widespread his reputation has become, has remained somewhat a marginal figure in much scholarship about the topics he has addressed over the last thirty years". Perhaps he has not been widely cited because he has ranged so thinly over so many topics in order to make his initial case about technological speed up, modernity and the emerging forms of the in-human. There is one important reason, however, to not forget Virilio: how he frames his own idiosyncratic writing practice. Instead of writing explanations, Virilio favours successive perspectives that do not construct a system. He tries to reach the "tendency" of speed society in a deterrorializing state of emergency where time has gone virtual and become destructive force.

In the final analysis, Redhead concludes that Virilio is a resolute high modernist who does not fit any poststructuralist, postmodernist, sociological, or critical social theory mold. He says his theoretical work has had major implications for architecture even as high technology is becoming our architecture of time. He commends him for writing well about the disappearance of the 'social'. In relation to debates over globalization, however, Virilio has been an absent presence. At the core of Virilio's thought is an image of a shrinking world. While there have been previous waves of time-space compression, the current wave will be the last because acceleration has reached the speed limit of light. Virilio has privileged acceleration in relation to modernity, rather than globalization in relation to capitalism: "Moreover, Virilio's arguments about time and distance melting away, however initially seductive, are at such a level of rhetoric and generality that all the specific and local changes in economics and technology, especially at the level of regional and national states, are completely neglected" (Redhead 2004a: 149).

The reasons Redhead gives to forget Virilio seem somewhat bizarre. First of all, Virilio is still alive so it is too soon to forget him. Second, Virilio's politics did not become more conservative like some of his contemporaries. Surely, this is a point 'for' rather than 'against' Virilio? Third, he has been anti-statist and lacks a theory of state formation, but seems to have contributed an understanding of war and speed that has been left out of state theory. Finally, Virilio's brief detour into the figure of the 'picnolept' – the subject who takes a time out from time – has been outside of any theorization of subjectivity. But his attention to rhythms within consciousness brings his project closer to Henri Lefebvre's "rythmanalysis" (Lefebvre 2004).

While Redhead has compared Virilio with Baudrillard (and to Foucault and Chomsky to a lesser degree), another productive strategy might have been to compare him to theorists of technology. For example, Virilio has noted that few people have written about speed, but one of them was Marshall McLuhan. Indeed, he believes he has corrected Marshall McLuhan's formula: "it is not the *medium* that is the message, but merely *the velocity* of the medium" (Redhead 2004b: 205, italics in original). How well Virilio has written about the 'technological' – and how it relates to particular ways of moving, dwelling, seeing, and being – will have to be assessed by comparing and contrasting his work with other accounts of technology and culture (e.g. Misa, Brey & Feenberg 2003; Hanke 2005).

While Redhead's book lacks some comparative depth to more fully understand his intellectual roots and current place, as well as an index to help the reader find their way through the various topics he has discussed or terms he has deployed, he does provide several good reasons for remembering Virilio. First and foremost, his writings have been prescient about international relations and future events, including the attacks on 9/11. Second, as a public intellectual, he has tried to intervene in events like the Kosovo war. Third, he has applied his ideas very widely making him relevant to a wide range of fields. Such eclecticism is always open to the criticism, from any established disciplinary perspective, that his discourse is superficial, oversimplified, or one-dimensional. But I have to concur with Redhead (2004a: 116) when he states that "it would be difficult to think of theorizing speed, technology and modernity without some consideration of the work of Virilio".

Redhead's study demonstrates that Virilio is an important contemporary thinker. For Virilio, speed is a spectre haunting the entire world. Acceleration has been given more attention in his transdisciplinary writings than deceleration or any other informational dynamics. He has been most incisive about what the "idolatry of acceleration" means and how excess speed reverses into its opposite of immobility than the question of the right speed, that is, when to be fast or when to be slow. Virilio's work is clearly grounded in the traditional metaphysical question of Being rather than the contemporary problem of becoming. The creative side of rapid deterrorialization and post-media is beyond his critical gaze. While 9/11 is an event that lends itself to a Virilian interpretation, different events such as the Zapatista uprising and movement depended on transnational socio-technical network capacity for their survival and success. Even though he supports transnationalism, Virilio's discourse on technology fails to see the landscape of related transnational social movements and civil society networks against neoliberalism and the US-Iraq war.

Ancient philosopher of change and conflict Heraclitus warned long ago: "We must put out the excess rather than the fire". Virilio has always heeded this warning.

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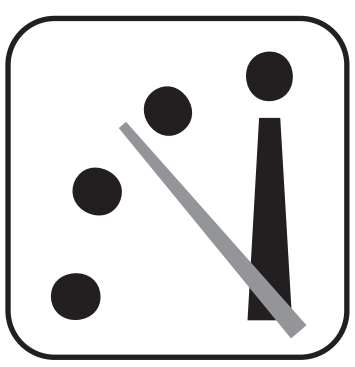
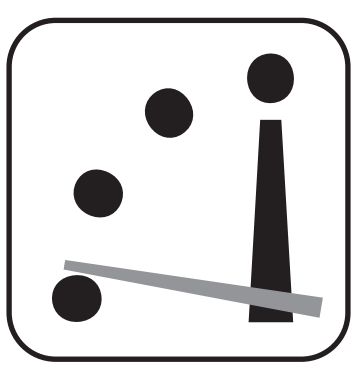
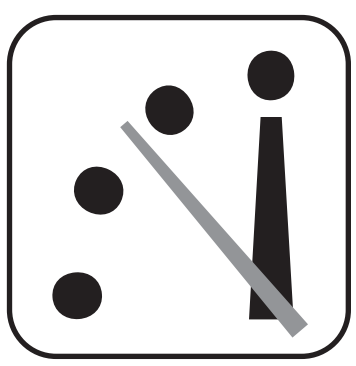

A Perilous Uniqueness

Peter C. van Wyck, *Signs of Danger: Waste, Trauma, and Nuclear Threat*. Minneapolis: University of Minnesota Press, 2005.

By Lawrence Hazelrigg

Workers at the nuclear reservation in Hanford, Washington, recently completed removal of residual plutonium from what had been the Plutonium Finishing Plant (*Seattle Post-Intelligencer*, 19 July 2005). In operation from 1949 to 1989, the Hanford plant had been the last step in the process of converting plutonium nitrate solutions into pure plutonium "buttons" which were sent to other plants to make nuclear bombs. When operations at the 586-square-mile reservation ceased in 1989, more than 16 metric tons of material containing some form of plutonium remained for disposal. Much more clean-up work needs to be done at Hanford – dismantling contaminated equipment, buildings, and so forth. The target date is 2035. The presently estimated total cost of $60 billion USD will almost surely prove to have been too low. There are dozens of other sites in the USA that also contain similarly contaminated materials. Clean-up costs for all these sites will be staggering.

Then comes the question, what to do with the contaminated materials, once they are removed? Because this question is part of the animation of Peter van Wyck's remarkable *Signs of Danger*, an appreciation of his accomplishment depends on an understanding of what are all too often neglected as "esoteric technical details". Thus, we must proceed, as does van Wyck, a little further into the terrain of nuclear energy and its less than desirable products.

All 15 isotopes of plutonium are radioactive. Pu-238, which is the power source of radioisotope thermoelectric generators currently used in navigation beacons, satellites, cardiac pacemakers, and other implements, has a half-life of 88 years. Two other main isotopes, Pu-239 and Pu-242, have half-lives of 24,000 and 37,600 years, respectively. Lest there be misunderstanding, bear in mind that a half-life of 88 or 37,600 years does not mean that plutonium is no longer dangerous to life forms after that period of time. It means rather that one-half of the isotope has "decayed" to a more nearly stable composition; the other half remains as dangerous as before. Moreover, in the "decay chain" of plutonium the portion of Pu-239 that has decayed during its first half-life, so to speak, has become Uranium 235, which is radioactive with a half-life of more than 700 million years (the longer half-life is another way of saying that it is more stable in composition). Although plutonium has been produced in "natural planetary reactors" (e.g., in uranium deposits at Oklo in west Africa), nearly all that is known to exist today has been a product of nuclear reactors that were designed either to produce material for nuclear weapons or as power generators for research or for commercial uses.

Uranium ore consists mostly of U-238, which is not fissile and has a half-life of 4.47 billion years. Less than one percent of the ore is U-235, which is highly fissile and is used as reactor fuel. Ore is processed by removing U-238 until the U-235 content is three to four percent. The U-238 that is removed, known as "depleted uranium", is used as armor and as armor-piercing munitions, as counterweights in the control surfaces of many aircraft, and in several other applications. But most of it is considered "waste". By some estimates the current volume of this category of waste in the USA is greater than 500,000 metric tons.

The typical reactor fuel, U-235, contains some plutonium, most of which is utilized in the reaction. The part that is not utilized remains in the "spent fuel", which is highly toxic and radioactive. The radioactive "decay particles" of this spent fuel are in fact rather weak (e.g., alpha particles will not penetrate skin, can be blocked by a sheet of paper, etc.; beta particles are a little more energetic, though cause nothing like the damage that results from the neutron and gamma radiation resulting from fission). But if dust or other pieces of the fuel are inhaled or are ingested via water and/or the food chain, the damage can be great. While most ingested uranium is excreted, the part that is not excreted accumulates in bone tissue and can induce cancers of bone, blood, and other tissues, and its metallic toxicity is great enough to damage excretory organs severely, especially the kidneys. Inhaled dust, like radon (a gaseous product in the decay cycle of uranium), can induce lung cancers. In sum, this "spent fuel" is another category of very dangerous "waste". Indeed, it is dangerous chemically as well as radiologically. Not only is it chemically toxic to biological tissues; like piles of cow manure, it generates heat, and if improperly aggregated the heat is chemophysically explosive. Again, then, the question, "What to do with this waste?"

The US government began deliberations about the storage/disposal of radioactive waste during the early 1950s. In 1956 the National Academy of Sciences recommended deep salt deposits as the geologically most stable site for storage of radioactive wastes. After considering a number of potential locations, a 3000-foot layer of sedimentary salt centered about one-half mile below ground level in southeastern New Mexico was chosen for what began as a sort of demonstration project. In 1979 the US Congress authorized the construction of a Waste Isolation Pilot Plant (WIPP). Excavation began in 1982. After delays due to controversies around the project, inter-agency struggles for regulatory authority, and the like, WIPP took its first shipment of "transuranic waste" on 26 March 1999. As of 13 July 2005 WIPP had received a total of 3,743 shipments, consisting of 312 100-gallon drums, 4,471 "standard waste boxes", 1,837 "ten-drum overpacks", and 62,425 "waste drums", altogether amounting to nearly 30,000 cubic meters. Contents include equipment, clothing, and other items involved in the various clean-up endeavors, as well as the transuranic materials themselves. Construction of additional underground chambers at WIPP continues. A recent proposal envisioned an "experiment gallery" (after all, a "one-of-a-kind setting") for studies of interactions between magnetic and radiation fields, searches for weakly interacting massive particles and neutrinos, studies of mine safety, and other projects. The facility is managed under Department of Energy contract by a private limited liability company, Washington TRU Solutions, which is a partnership of two private engineering and construction companies, the Washington Group International and Weston Solutions. The facility maintains an official website (www.wipp.ws), as does the New Mexico Environment Department (www.nmenv.state.nm.us/wipp).

Signs of Danger tracks main events in the history of WIPP to 1999. Its focus is both much wider and narrower, however. The narrower aspect has to do with a conundrum that bubbled to the surface of planning and design discussions for WIPP. The site must be appropriately marked as dangerous (no drilling, no excavation, etc.); the marking must effectively convey the magnitude and intensity of the danger, but do so safely, just as the danger below has been made safe (so long as it remains unaltered, etc.); *and* the message must be understandable to people far into future centuries. Panels of experts were assembled to deal with this conundrum – not just as a theoretical puzzle but in a way that would issue in the optimal design of an actual marker. The conundrum remains. None of the different designs that have been or are being considered has proven to be "obviously right". The Department of Energy has said it will continue working on a solution.

The much wider aspect of van Wyck's book consists in meditations on threat, the virtual, relations of the secret and the forgotten, and human-scale elasticities and limits of signification, and more, all interspersed with various recitations and commentaries that invoke standard literatures from Peirce to Baudrillard, Deleuze, Guattari, Kristeva, and Zizek. The many intersections of complex issues can be treated only sparingly in a text limited to 118 pages (plus 13 pages of preface and introduction and 15 pages of notes). But the richness of blazings and intimations gives an attentive reader maps into some unusual territories of reciprocity between "the mundane" and "the exotic", "the tamed" and "the wild", credibility and gullibility, desperation and obliviousness. A brief hint of such explorations can be gained from

consideration of the simple point that the intended significance of the WIPP marker (whatever its final installation) will depend on a prior forgetting of the danger that was hidden underground and thus made safe. Otherwise, what need of the marker? The expected marker would offer the mimetic action of performance art before/for an audience who, the final design approvers must believe, will not have expected the message, at least not in exactly that place, and will thus learn exactly what the design approvers want them to know.

Deciphering the (i.e., what someone assumes to be) lithographs or inscriptions of a forgotten language exemplifies a comparison case: on the assumption that what we are observing *are* elements and/or compounds of some sort of linguistic intelligence, we look for markers that can begin to suggest some relations (equivalence, similarity, difference, etc.) for bridging the "gap" from our language to *that* language. Trials for Linear A (the assumed ancestor of Linear B, the language of the ancestors of our "ancient Greeks") have demonstrated just how daunting the task "even" when the separation is shorter than 3,000 years. Experimental trials of versions of the WIPP marker are about as feasible as experimental trials of global warming or nuclear holocaust or alternative strategic actions to prevent either. Surely if we have learned anything from all or any of the versions of "human history" yet recorded, it is that humans have much poorer skills of insight when imagining "the future" than when imagining "the past". As John Dunn (2000: 198) recently reminded: "There is no way of thinking accurately about most aspects of the longer-term future, and act relatively effectively in relation to it". There are simply too many variables, too many uncertainties. Imagine, then, the task, as stipulated by the regulative legislation behind WIPP, of designating the site "by the most permanent markers, records, and other passive institutional controls practicable to indicate the dangers of the wastes and their locations"? How does one read "permanent," when the danger to be marked has a half-life of hundreds of thousands of years? That question was apparently so intimidatingly incomprehensible that someone in authority in the WIPP planning process substituted "10,000 years" – as if this smaller number might either be too short to qualify as Dunn's "longer-term future" or allow the problem of WIPP's marker to fall among those aspects of the longer-term future that some experts do know how to think (about) accurately. Is it still a cliché to say, "This would be oh-so-funny were it not so deadly serious"? Who would be the marker's audience in 10,000 years? Do we think we can know more about them than we know about, say, any literate Stagirite who might have struggled over a text in Linear A? Designing a message for future readers must always be a message for the designers (whether the imagined reader is a designer's future self or someone later), because the designer must imagine readers's message-relevant capability sets. Here the task is to face beings we simply cannot imagine except as an abstract population. If our moralities, that is, propositions of what we owe one another, include any future actors among those "others" (e.g., our unborn children), are we obligated to consider future actors whom we cannot even imagine?

One would like to see van Wyck's book read by all who exercise powers great enough to affect others. That is improbable, of course. The relatively few actual readers who read patiently and productively are the likelier audience, and I recommend the book also to them. This recommendation comes with a warning, however: it can be highly depressing reading, especially to anyone who still rues the fact that even after 2300 years of improved education most people still have great difficulty in understanding Aristotle's *Politics*, and prefer to attribute their difficulty to Aristotle's "genius".

Production values of the book are generally good, but a few problems should be noted. Indexing is now seldom a serious part of the art of book-making (perhaps because of decline in serious book-reading), but incorrect page numbers, missing entries, and redundant contents suggest inattention. Although all works cited appear in footnotes, citations are mixed with many (usually very interesting) content footnotes; a collected bibliography would have been helpful. An appended chronology of WIPP events ends in 1999; an extension could have usefully outlined some of the continuing controversies, accessions, and so forth. And while van Wyck is no less a stickler for facts than Borges' narrator in "Pierre Menard", a few failures of fact checking crept in nonetheless. For instance, as of July 2005 elements 117 and 118 had not been demonstrated (p. 16; the 1999 claim of "discovery" was later withdrawn), and the initial claim for elements 113 and 115 had yet to be duplicated. A second instance: the statement that "the larger the atomic number, the less stable the atomic structure, and the more rapid its breakdown" (17) is wide of the mark (e.g., U-238 is far more stable than any isotopes of radium, element 88; curium 247 (element 96) has a half-life of 16 million years, to Pu-239's 24,000 years; and so on).

Finally, that I highly recommend van Wyck's latest book (as well as his prior book; van Wyck 1997) to many different readers and different levels of reader is testimony to his compositional skills as well as to the worth of his arguments, but it does not mean that I have no reservations about the arguments. What Valéry (1952: 237) said specifically of the writer of poetry I believe extends to writers generally: that a writer must "create the need, the goal, the means, and even the obstacles", all of which are implicated in the creative action of the art. Selections, perhaps especially of the obstacles, should be made with strategic forethought, however. For example, whereas van Wyck (85) wants to regard "modern threat" – or "modern 'ecological risks'", as Ewald [1993: 222] calls them – as *unique*, I would caution that if a category as such is truly unique, we are completely impoverished against it. Unless it shares at least *something* with one other category, indeed, we are thoughtless toward it. It escapes our perception (even the perception of "puzzle", a category of instances). Granted, 10,000 years is a few orders of difference from our usual temporal scales of everyday life, and there is no doubt that at least the politics if not the moralities of our "everyday fears" have taken note of the difference and the reasons for it. But this is not to say that "the threat" coming from those reasons and the difference they make is unique *tout court*. Fortunately, van Wyck sometimes ignores his obstacle of uniqueness (88-89), with very good consequence.

It has of course become all too easy to feel overwhelmed in and by this "world we never made", thus then to slide into an ethic, perhaps also a morality and politics, of brutal awe and resignation. I do not think that van Wyck or the part of him that became this book has entered that prison. I do notice, however, a thematic undercurrent that can be summarized in a question referred from the haunting recognition of human fallibility: "What to do about *that*?" Can humans invent a strategy of action that could somehow be immune to dialectics of intentionality and condition/consequence (whereby the unintended so often swamps the intended)? Human being, the self-conscious fragility of which suggests that it might be some experimental presence "in nature", has become so enormously powerful that it is capable of destroying itself utterly, and most known conditions of life on this planet along with it. There is no guarantee against that end. What is new is the scale of the power, not the presence of fallibility, the accidental, uncertainties, or a probabilistic calculus of events. That difference is quite enough, perhaps too much in the end. Human rationality has too often failed to keep track of, much less adequately manage, the concatenating chains of effects issuing from actions taken long ago. There is nothing new in that fact of failure. But now the potency of actions and their effects has reached a scale that can very easily overwhelm human survivability. As van Wyck repeatedly points out, it is possible that "we" have already set in train the concatenations that *will* overwhelm all ability to survive, though the outcome is not yet apparent. One of the gems he has left to an attentive reader in *Signs of Danger* is crystallized from his meditations particularly on Zizek's Lacanian analysis of the performative category "threat" and Deleuze's treatment of "the virtual" vis-à-vis "the real". It is very nearly enough to induce belief that, because of the enormity of the power human beings have achieved during the past century, the "ecological threat" impossibly performed by/as *any* interpellation from *any* possible WIPP marker is unique in human history after all.

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SRB Insight:

Deleuze, Peirce and the Cinematic Sign

By Roger Dawkins

In his books *Cinema 1: The Movement-Image* and *Cinema 2: The Time-Image*, Gilles Deleuze uses the cinema as his workbook for developing philosophical ideas. A predominant example is his thesis on cinematic movement. Deleuze grounds his study of the cinema in a Bergsonian understanding of the image. He claims that the cinematic image is a "movement-image", and from this he thinks through a whole gamut of philosophical problems, such as the relation between matter and image in terms of the question of movement/time.

Another idea in the cinema books, but one much less examined, is Deleuze's concept of the sign. Thinking about the image in terms of the problem of the sign and language is not itself new: it has been around since the 1920s, and in the 1960s Metz was the first to use modern structural/linguistic models to develop this problem (Guzzetti 292). For Metz, the image is a sign in so far as: 1) it is a material that represents reality; and 2) the nature of its representation of reality depends on the way the sign is shaped by social/cultural *codes*. Deleuze's perspective on the cinematic sign is a little different. First of all, his semiotics is developed in step with his determination of the image as movement-image. Consequently, since the image is movement-image, underlying Deleuze's entire cinematic project is the equation of image and matter. This makes Deleuze's cinema semiotics also a semiotics of the material world. Second of all, Deleuze dismisses the primacy given the role of the code in semiology. For Deleuze, a sign is meaningful because of its semiotic matter, *not* because of the code. He uses a concept of expression (from his earlier work on Spinoza) to describe sign-formation as a self-modulation that is independent of transcendent structures. Third, he adapts Charles S. Peirce's *semeiotics* to describe a range of outcomes of expression — in other words, a range of different signs in the cinema.

In this essay I will explain Deleuze's semiotics in detail. There is a paucity of texts concerned with an examination *of* and engagement *with* Deleuze's concept of the sign. And more broadly, not much has been written on the potential of semeiotics for a semiotic analysis of the moving image. There have been inroads into this problem, but these have only gone as far as to consider the moving image in relation to the typology Peirce builds around the *representative* condition of the sign — in other words, the sign-object relation as a First (Icon), Second (Index) or Third (Symbol) — using this range of representation as a way of offering an alternative to semiology's preference for the coded sign. I will make clear how Deleuze's use of Peirce and development of a semiotics is much more complicated and yields a great potential for future semiotic analyses of the cinema.

Most important about my argument is the way Deleuze translates his concept of expression into semeiotics and develops a rich and practical range of signs in the cinema. Looking closely at the cinema, reading between the lines of Deleuze's thesis, reveals a version of Peirce's Tri-Square of sign elements underlying the cinema books, and in terms of the (hierarchical) combination of these elements, a version of Peirce's triadic (completed) signs. The difference, however, is the sense in which Deleuze's signs are expressions of semiotic matter, and consequently, that the structure of Deleuze's semiotics is a *structure of immanence*. Deleuze doesn't say as much, yet I think breaking his argument down to its bare bones and thinking about his signs in this way gives us a practical semiotics we can take from the cinema books and apply to all films.

1. Background and Context

Consider a key relationship in the cinema books. This relationship involves a signaletic material on the one hand and the sign on the other. The signaletic material is the semiotic matter of the image, the stuff of the image. This is the image in terms of its qualities, colours, and sounds — the most *basic* sense of the image. Furthermore, since Deleuze specifies how the image moves ("movement-image"), *equating* the image and reality, the signaletic material of the image is the same underlying stuff that makes up the objects, bodies, sights and sounds of the material world. The sign is the image's function as meaningful unit for somebody. *Meaning* in this sense is identified with the particular way the signaletic material is embodied in an image; for example, the way qualities, shapes, colours and sounds are embodied in the image of a snarling dog. Meaning is *not* the end result of relating the image of a snarling dog to a code (snarling dog = rabies); meaning resides strictly in the nature of the embodiment.

Deleuze describes the signaletic material in the following way: he calls it 1) an "a-signifying and a-syntaxic material" even though, 2) "it is not amorphous" (*Time* 29). From the first point, the a-signifying means that the signaletic material is not naturally a signifying matter — in other words, it is not naturally meaningful. Furthermore, the a-syntaxic means much the same, but with a subtle difference. The a-syntaxic means that the signaletic material is not naturally organized into a structure of meaningful units. The second point tells us that the signaletic material is not amorphous: it is not indeterminate and without any shape or character. By putting these two points together, then, Deleuze is telling us that the signaletic material is not a meaningful or organized substance, but neither is it meaningless or amorphous. Consequently, Deleuze also explains how the signaletic material is virtual. It's real but not actual. We can't see it, but we know it's there.

Why does Deleuze determine the signaletic material according to the above two points? First, if the signaletic material is signifying/syntaxic then it would already be meaningful in some sense. Thus the sign, in embodying the signaletic material, would in fact be functioning to uncover a latent or possible meaning. Now, if the meaning of the sign is possible, it is inseparable from actual existing meaning. Consequently, the meaning uncovered by the sign would always be determined in some sense by pre-existent meaning. Second, if the signaletic material was amorphous, then the sign would not uncover a latent meaning (for there is no meaning to be uncovered). Instead the sign, in embodying the signaletic material, would in fact be shaping the signaletic material and molding it into meaningful substance. For the sign to assume such a function it must already be meaningful in some sense, implying that the meaning resulting from the signaletic material–sign relationship would, at best, be a *version* of pre-existent meaning. For Deleuze, both the above positions on meaning have a negative impact on creativity in language.

Deleuze claims that the signaletic material is neither amorphous nor signifying/syntaxic. It *is* an existing matter, but since its nature accords with neither of the above conditions, he calls it a "plastic mass" (*Time* 29), ensuring that the meaning produced in his conception of the sign is not a version of something pre-existent, but is completely new, fresh, original and spontaneous.

For Deleuze, what is the relationship of sign and signaletic material? We know that the sign, as the embodiment of the signaletic material, does not function to make actual some possible meaning, and neither does it shape the signaletic material. Deleuze tells us that the sign is 1) "irreducible" to the signaletic material, yet 2) "not without a determinable relationship to it" (*Time* 34). For Deleuze, then, the sign determines the signaletic material, but not in the sense I have noted so far. One way we can describe

this process is with Deleuze's concept of expression. Deleuze develops this concept in most detail in his monograph on Benedict de Spinoza. André Pierre Colombat (2000:16) gives us an insight into its meaning when he defines expression as a process of *unfolding* and *involvement*. What is suggested is a sense in which the sign is an expression of the signaletic material in so far as it marks the extension and transformation of the signaletic material into something different. Consider again the above example of a sign: the image of a snarling dog. For Deleuze this image is not a sign in so far as it is a jumble of stuff (qualities, shapes, colours) to which meaning is attributed (codes). To be sure, it is an *assemblage* of stuff that is meaningful because of the way, as an assemblage, the semiotic matter is unfolded, existing slightly different to itself in its form as a sign.

2. Enter Peirce and Spinoza

"Not a great deal can be done with codes" (Deleuze *Time* 28). This is the claim Deleuze makes in the cinema books when levelling a critique against semiology.

Keyan G. Tomaselli (1989 qtd. in 1996: 44-5) is of the same opinion. When considering a suitable model for the analysis of how meaning is made in ethnographic documentaries, he claims that semiology takes codes for granted. He writes that codes are not "natural, neutral or even necessary". Tomaselli states that the coded sign brings with it a notion of meaning that is "saturated with the ideological imperatives of society" (45). Furthermore, he feels that these ideological imperatives unavoidably restrict the sign's ability to represent an experience.

For Tomaselli, Peirce's semeiotics is a theory of meaning that considers the sign independently of codes (transcendent structures). In Tomaselli's reading of Peirce, signs are the way a subject makes sense of an encounter, but this process of *making sense* does not depend entirely on the subject's reference to codes. Tomaselli explains this point in semeiotics when he notes three steps involved in a subject's attempt to make sense of an encounter. These steps correspond to the fundamental properties of the universe, or what Peirce calls the phenomenological categories of Being: Firstness, Secondness and Thirdness. Each step, taken separately, implies a different notion of what an encounter is, and each step implies a different notion of the sign (there are signs of Firstness, Secondness and Thirdness). And, the semiological sign is only one part of semeiotics: it falls among Peirce's logical or conventional sign of Thirdness (Symbol). Thus semeiotics supports a broader and more varied idea of the sign and meaning than semiology.

Similar to Tomaselli, Deleuze uses Peirce to move beyond the limitations of coded signs and transcendent structures. But Deleuze also uses semeiotics to develop a theory of expression in the cinema. Based on Bergson's matter/time ontology, Deleuze equates matter in the universe with the cinematic image (movement-image). He then uses Peirce's signs of Firstness, Secondness and Thirdness to conceive a theory of meaning in the cinema that is independent of transcendent structures — in other words, he uses Peirce's signs to conceive of a semiotic idea of expression. Thus Deleuze's reading of Spinoza is also key here. Deleuze conceives of Peirce's signs as expressions because, from Spinoza, he understands Peirce's categories as immanent to the universe/cinema. The categories and the universe are "in immanence" (which I borrow from Deleuze) in the sense that the categories *rightfully* exist and are not *determined* to exist by a transcendent force in the material world.

Peirce's theory depends on his division of the universe into three fundamental categories. These are ordinal and hierarchical — in other words, Thirdness contains Secondness and Firstness, and Secondness contains Firstness — in the same way that a Russian doll contains a doll within a doll within a doll. When the categories are separated, Firstness is existence in-itself, for example, *redness* (independent of its embodiment in an object) is a First; Secondness is actual or genuine existence, when the redness is embodied in an object in a state of things (a rose, a fez, a Ferrari); Thirdness is logical existence, when an object in a state of things is conceived as a general type that is representative of some law.

Consider Peirce's concept of the sign. The categories of Being have a bearing on Peirce's concept of the sign in two ways: 1) For Peirce, a sign, like everything else in the universe, is divisible into the three categories. There are, then, three properties (or what I will call *aspects*) of every sign. These are apparent when Peirce defines the sign as *something that stands for something else (its object) for some interpreting mind*. From this definition a sign is first of all something in-itself, and Peirce calls this aspect of the sign the Representamen. Second, a sign stands in a relation with an object, and Peirce calls this aspect of the sign the Object. Third, a sign–object relation is interpreted by somebody, and Peirce calls this aspect of the sign the Interpretant; 2) The sign is the way a subject makes sense of an encounter. In semeiotics there are three kinds of Representamen, three kinds of Object, and three kinds of Interpretant.

For clarity I call Peirce's aspects of the sign, when considered from the perspective of their different categorical kinds, the *sign elements* of semeiotics. From the three aspects of every sign are nine sign elements of semeiotics. These elements are represented below in Peirce's Tri-Square:

Table 1

A Tri-Square of the Nine Sign Elements of Semeiotics:

	1	2	3
Representamen	Qualisign (quality that is a sign)	Sinsign (event that is a sign)	Legisign (general type that is a sign)
Object	Icon (qualitative relation of sign and object)	Index (genuine relation of sign and object)	Symbol (abstract relation of sign and object)
Interpretant	Rheme (general interpretation of some possible object)	Dicent (specific interpretation of actual properties of object)	Argument (logical interpretation or judgment)

Table 1 sets out the three different kinds of Representamen, Object and Interpretant of semeiotics. I will not explicate them here, instead I will simply note how each sign element is characteristic of a particular category of Being; for example, a Legisign is a general type that is a sign (a law), an Index is a genuine sign–object relation (*smoke* as a sign of its object, *fire*), and a Rheme, since it focuses on the Firstness (qualities) of an object, is a general interpretation.

When referring to the sign from the perspective of its combination of the sign elements in a practical context, I will call the sign a *completed sign*. The fact that there are nine sign elements suggests a certain amount of variation potential to the completed sign. But, it is important to remember that Peirce's categories are ordinal and hierarchical, and this means that the combination of elements involved in every sign is ordered by a certain leading principle derived from Peirce's phenomenology. This is what James Liszka calls the "qualification rule", which states that a First cannot be combined with a Second or a Third, and similarly, that a Second cannot be combined with a Third (1996: 45). The result is that Peirce's sign elements combine to form only ten classes of completed sign:

Table 2

Ten Classes of Completed Signs of Semeiotics (Deledalle 2000: 19)

	R	O	I	
I	R1	O1	I1	Rhematic Iconic Qualisign
II	R2	O1	I1	Rhematic Iconic Sinsign
III	R2	O2	I2	Rhematic Indexical Sinsign
IV	R2	O2	I2	Dicent Indexical Sinsign
V	R3	O1	I1	Rhematic Iconic Legisign
VI	R3	O2	I1	Rhematic Indexical Legisign
VII	R3	O2	I2	Dicent Indexical Legisign
VIII	R3	O3	I1	Rhematic Symbolic Legisign
IX	R3	O3	I2	Dicent Symbolic Legisign
X	R3	O3	I3	Argument Symbolic Legisign

* Note: All expressions such as R1, O2, I3 should be read according to Peirce in the following way: a Representamen that is a First, an Object that is a Second, and an Interpretant that is a Third (8.353).

I will not explain these completed signs here, but merely offer examples: a Rhematic Iconic Qualisign is a *feeling of red*; an example of a Dicent Indexical Sinsign is a *telephone ring*; and an example of an Argument Symbolic Legisign is a *syllogism* (Parmentier 1994: 18).

The most important thing about Deleuze's appropriation of Peirce is his understanding of the immanence of the categories. If the categories are immanent, then there is nothing transcendent that determines a certain kind of experience as a certain kind of sign. *This means that a sign simply exists*, and a subject's relationship with a sign is based on nothing more than the material properties of that particular encounter. In *The Movement-Image* Deleuze goes to great lengths to prove how the categories are immanent to the universe/cinema. And on this point Bergson's ontology is also key to Deleuze's argument. He equates Peirce's categories with what Bergson describes as different levels of subjectivity. Consequently, the *deduction* of subjectivity, according to which subjectivity is not determined by a transcendent force, is homologous to the

deduction of the categories — according to which the categories arise in the universe — and testimony to their immanence.

In so far as the categories are essentially immanent, it becomes apparent in the cinema books that the categories, in their naturally "tangled" form (Peirce 1.280), are the semiotic matter of the cinema (plastic mass). They are in immanence: nothing is transcendent to the signaletic material. Moreover, it follows that the signs produced from the categories/signaletic material are not rightfully formed as a result of any transcendent force. Their meaning is not rightfully pre-determined. Thus with the identification of the categories in the cinema Deleuze has the foundation from which to develop his semiotics.

From Peirce Deleuze notes three categories in the cinema, and I call these the image-types of the cinema. Deleuze calls Firstness the *affection-image*: similar to Peirce it is the category of matter's existence in-itself, not as a real thing (a delimited thing in the universe, a Second), but a quality, a visual impression, an optical effect only. Deleuze calls Secondness the *action-image*: again it is similar to Peirce's category in that it is the domain of real objects in real spaces: it is the domain of Realism (*Movement* 141). Deleuze calls Thirdness the *relation-image*: like Thirdness in semeiotics, the relation-image is also concerned with logical relations.

Next, while Peirce describes three aspects of the sign — Representamen, Object and Interpretant — Deleuze begins by noting only two aspects of the cinematic sign. He calls these Genesis and Composition. At this stage it is quite clear that Deleuze is sticking quite closely to Peirce's concepts of the Representamen and Object respectively. Yet Deleuze's terminology also emphasizes the importance of Spinozistic concepts in his semiotics.

In Deleuze's reading of Spinoza's *Ethics* he emphasizes Spinoza's claim to *one immanent substance in the universe*. Spinoza defines substance as "absolutely infinite" being (*Ethics* ID4), and in this definition he conceives of God as that which is "in-itself and is conceived through itself" (ID3). Furthermore, human being "is a mode of the attributes of nature", and is conceived as "part of a dynamic and interconnected whole" (Gatens 1996: 165). Deleuze identifies how, since Being is univocal, particular things (plants, animals, rocks) are produced as the effect of a two-fold process of the expression of substance. In the first stage of expression, attributes are constituted. Deleuze points out that attributes are *"forms common to God"* and contain the essences of substance (*Expressionism* 47). They are the basic forms from which life is developed and they are potentially infinite in number. For this reason Deleuze identifies attributes with genesis, calling them "genetic elements" (80). The second stage is based on the expression of an essence in the attributes by a particular thing, which Deleuze refers to generally as a body (a plant, animal and rock are all *bodies*). Deleuze (1978/2002: 6) notes that a body expresses a genetic element of substance (attribute) through the "*composite* or complex relation" of its parts (my emphasis).

Deleuze's understanding of these two stages of expression is key in his reading of semeiotics and his own development of the cinematic sign. I mentioned above that Genesis is the concept Deleuze uses to conceive of the sign in-itself (Representamen), but in my opinion this concept also reveals his understanding of how the sign, in-itself, is equivalent to the essence (*genetic element*) of a body in Spinoza's theology. In respect of this equivalence, we can note that the sign (in-itself) is an essence of a category of Being and is immanent to the cinema. Composition is the concept Deleuze uses to conceive of the sign's embodiment in a sign–object relation (Object), but continuing my argument, this concept also reveals Deleuze's understanding of how the sign–object relations of semeiotics are equivalent to the way a body in Spinoza exists. For Spinoza, a body exists because the composite relation of its parts expresses an essence of substance, *not* because a transcendent God breathes life into its matter. In the same way, Deleuze is claiming that a sign is embodied when a Composition of elements in the cinematic frame express a category of Being characteristic of a Genesis. With Genesis and Composition Deleuze guarantees that a sign is an existing thing that is meaningful in-itself. Returning to his critique of structuralism, then, Deleuze now definitively rules-out the need for transcendent structures to shape what would otherwise be an amorphous blob of semiotic matter.

Although Deleuze's concern for the bulk of the cinema books lies with the way the signs of the cinema are embodied — independently of their interpretation, he does eventually develop a third aspect of the sign quite clearly equivalent to Peirce's Interpretant. Deleuze calls this aspect of the sign the Noosign, and I argue that it completes the (immanent) structure of Deleuze's semiotics. Deleuze uses Genesis to describe a kind of sign particular to a category of the cinema; Composition to describe the different ways a sign is embodied particular to the different composite relations of a category of the cinema, and also, to demonstrate *how* and *why* a kind of sign is immanent (it is expressed in a composite body of cinematic elements); and the Noosign to describe the different kinds of interpretation forced by each category of composite whole. In the same way that Peirce's three kinds of Interpretant represent a continuum of interpretation: from the most *general* kind of interpretation (a qualitative interpretation or sensation: Rheme), to a more *specific* or factual kind of interpretation (of an object's properties: Dicent), and finally, to a *logical* interpretation of an object (the formation of laws, judgements or concepts: Legisign) — if we look closely at the latter chapters of *The Time-Image* then we can see how Deleuze's Noosigns also represent a continuum of thought: from the most absolute kind of thought to conceptual thought. Most importantly too, since the composite whole (sign) exists rightfully in-itself (it expresses an essence of substance in the same way as a body in Spinoza's theology), the meaning of the sign is contained naturally in the material properties of the sign. In other words, an interpretation does not rightfully begin by attributing transcendent ideas to what is otherwise amorphous semiotic matter.

3. A Structure of Immanence

If we follow through this thesis of the triadic sign in the cinema books, then by the conclusion of Deleuze's study we can note the following version of Peirce's Tri-Square of sign elements:

Table 3

A Tri-Square of Nine Sign Elements of *The Movement-Image*

	1 (affection-image)	2 (action-image)	3 (relation-image)
Genesis	Qualisign	Imprint	Symbol
Composition	Icon	Synsign/ Index	Mark/ Demark
Noosign	Term	Proposition	Whole

Represented above is the principal structure of signs in *The Movement-Image*. It must be noted, however, that Deleuze is not explicit about presenting his signs in this way; it is my thesis that this structure is underlying in Deleuze's study. The signaletic material is the tangled skein of affection-images, action-images and relation-images. From Table 3, a sign in Deleuze's semiotics is something in-itself, an essence (Genesis); it is manifest according to the particular way that essence is expressed in a composite whole of images in the frame (Composition); and it forces a certain kind of thought (Noosign). It is a structure of immanence because there is nothing rightfully transcendent to Deleuze's signs pre-determining their interpretation.

I will be brief in describing my understanding of the specific character of these sign elements. Similar to semeiotics, Firstness for Deleuze (affection-image) is the category of Being in-itself. He borrows directly from semeiotics when he describes its Genesis as the quality in-itself, or *Qualisign*, and describes a qualitative Composition based on Peirce's iconic sign–object relation, or *Icon*. He uses an actor's face as his predominant example of the Icon, stating that a facial expression can stand for the qualities of some object. He isn't explicit about naming the Noosign of Firstness, but he is quite clear in asserting a kind of thought associated with the affection-image that is characterized as an interpretation of some *possible* state of things. This Noosign is equivalent to Peirce's Rheme, and for the sake of my analysis I call it a Term (Peirce sometimes uses Term and Rheme interchangeably).

Deleuze calls Secondness the action-image. His Genesis and Composition of the action-image are much the same as Peirce's Representamen and Object of Secondness, even though he uses different names. For Peirce, the Representamen of Secondness is the actual event constituted by the relation of two things, the Sinsign. For Deleuze, the *essence* of the sign of the action-image is much the same, the only difference being that he conceives of an event in terms of the relation between a *situation* and an *action*. To mark this emphasis, Deleuze calls the sign of the action-image the Imprint. Peirce

describes the sign–object relation particular to Secondness with the Index. Deleuze's Composition of the action-image is a version of the same: he describes the expression of Secondness in a *genuine* relation of cinematic elements. Yet he uses two main scenarios to describe this category of Composition. First, Deleuze focuses on the relation between a situation and an action; for example, when a character responds to a crisis in the community and restores a sense of order. With this scenario Deleuze explains the first kind of genuine relation as a *binomial*, and modifying Peirce's terminology slightly he states that the first kind of Composition of the action-image is a Synsign. Second, Deleuze focuses on the relations of actions themselves. Furthermore, in so far as Deleuze claims that actions typically disclose some kind of situation, he describes a version of Peirce's Index and states that the second kind of Composition of the action-image (in Chapters 9 and 10 of *The Movement-Image*) is an Index.

With his discussion of Robert Flaherty's documentary style, Deleuze implies a Noosign of the action-image equivalent to Peirce's Dicent. He writes that films like *Nanook of the North* are predominantly action-images and simply present an "exposition" of the milieu, capturing in the "raw" a character's "tête-à-tête with the milieu" (*Movement* 143). Another way of putting this criticism is to say that Deleuze (although he is not explicit about it) is noting a Dicent as the dominant mode of interpretation of Flaherty's films. Logical claims are not made; instead a sign forces a kind of propositional thought only. For the sake of my analysis I name the corresponding Noosign the Proposition.

Deleuze's relation-image is based on Peirce's category of Thirdness. Consequently, his sign elements function in the same way as Peirce's Legisign, Symbol and Argument. Deleuze, however, doesn't label the Genesis of the relation-image with Peirce's Legisign. Instead, it is my claim that he borrows Peirce's *concept* of the Symbol for the Genesis of the relation-image, in order to emphasize the *plurality* of relations potential to the relation-image. Thus Deleuze shifts Peirce's Symbol from its function as the second aspect of the sign of Thirdness to the first aspect of the relation-image. In this way, he shifts the emphasis from the Symbol's sign–object relation, to the Symbol's concept as an abstract and potentially open-ended relation (in the first third of Chapter 12 of *The Movement-Image*). What about the relation-image's Composition and Noosign? Deleuze describes two kinds of Composition equivalent to the abstract sign–object relation characteristic of Thirdness, and he calls these the Mark and Demark. The Mark is an abstract relation of elements based on their common properties, and the Demark is an abstract relation of elements based on their differences. And if we shift the emphasis in Deleuze's examination of montage (in his argument about "classical" cinema) away from an emphasis on historicity, it becomes clear that his discussion also describes the kind of thought particular to the relation-image. Montage refers to the relations of images, and more specifically, montage is one way of describing a grouping together of elements that are otherwise unrelated — it refers us to a strictly logical Composition of elements. Thus the kind of thought Deleuze identifies with montage is the kind of thought characteristic of the Mark/Demark and the relation-image of the cinema. Furthermore, in so far as Deleuze (from Sergei Eisenstein) notes the "whole" (concept) as the outcome of a montage process that is essentially dialectical in nature, the immanence of Deleuze's structure of signs is emphasized. This is due to the fact that thinking (in the case of a dialectical relation) is an evaluation based on the abstract relations of terms *not* determined by transcendent structures (*Time* 158). For the sake of my argument I name the sign of conceptual thought in Deleuze's semiotics the Whole.

I mentioned above how, for Peirce, a sign is a combination of three aspects. This concept of the sign is much the same for Deleuze: what I call a *completed sign* is a combination of Genesis, Composition and Noosign. Again, Deleuze isn't so explicit about this: he doesn't use the words "completed sign" and he doesn't render his semiotics according to Table 3, but his discussion nevertheless makes the structure I am identifying quite transparent. When he describes the dialectical relations of images in Eisenstein's films, he is describing what I identify as a Whole Mark/Demark Symbol. When he describes Flaherty's documentaries, most pertinently, to be concerned with a character's battle with a milieu, he is describing an event that is a sign, expressed in a binomial, and forcing a range of propositional style thoughts: a Proposition Synsign Imprint. When he describes Joan of Arc's face in Carl Th. Dreyer's *Passion of Joan of Arc* as a quality expressed in-itself, a pure Icon, giving rise to an affective charge in the viewing subject, he is pointing to a [Term Icon] Qualisign (*Movement* 107; NB. I use square brackets here in order to denote those elements of the completed sign that do not have to be stated when discussing the sign, since a Qualisign necessarily includes an Icon and a Term).

Moreover, when Deleuze describes special signs of the relation-image — in the Western for example — it can be argued that he is alluding to the hierarchical flexibility of his semiotic structure and the sense in which, similar to semeiotics, a kind of sign (Representamen/Genesis) can be expressed in a range of different cinematic elements (Object/Composition), and accordingly, can force a range of different thought processes (Interpretant/Noosign). Taking the Western, Deleuze describes how the hero is often "representative" of a "collectivity": "The hero becomes equal to the milieu via the intermediary of the community" (*Movement* 146). This suggests some cases where the hero acts as a result of the wishes of the community and, according to what these wishes may involve, we can assume they include the community's desire for justice, and perhaps even vengeance. It can be said, then, that the binomial implied by the hero's action is expressive of a Symbol. And it follows that the binomial is not interpreted logically, but in terms of the factual information afforded by the combination of cinematic elements (Proposition), or qualitative information (Term). What is identified are the Proposition Synsign Symbol and the Term Synsign Symbol respectively.

When Deleuze describes a quality that is not expressed in-itself (Qualisign) but is tied to a state of things, it is clear to a reader of semeiotics that he is describing Peirce's idea of an Icon that does not stand completely for its object. In this case Deleuze is identifying an *event* that is expressed *qualitatively* through an Icon: a Term Icon Imprint. Importantly also, Deleuze is pointing out how there are degrees of purity of the Icon and the thought process associated. In terms of a comparison to semeiotics, the most common Icon is tied to a state of things. This is the most common kind because, as Floyd Merrell makes clear, Peirce's Qualisign (a *pure* Icon) is only given in fleeting moments of lost consciousness or forgetfulness (1995: 102). Thus Deleuze's discussion of the construction of Qualisigns through editing and framing also reveals the potential of cinema, as a text, to readily present what may otherwise go unnoticed in everyday life.

Regarding my discussion of the completed signs of *The Movement-Image* (and taking into account the hierarchical flexibility of sign elements noted above), I will put forward the following table of completed signs in Deleuze's semiotics:

Table 4

Ten Principal Completed Signs of Deleuze's Semiotics

	G	C	N	
I	G1	C1	N1	Term Icon Qualisign
II	G2	C1	N1	Term Icon Imprint
III	G2	C2	N1	Term Synsign/Index Imprint
IV	G2	C2	N2	PropositionSynsign/Index Imprint
V	G3	C1	N1	Term Icon Symbol
VI	G3	C2	N1	Term Synsign/Index Symbol
VII	G3	C2	N2	PropositionSynsign/Index/Symbol
VIII	G3	C3	N1	Term Mark/Demark Symbol
IX	G3	C3	N2	Proposition Mark/Demark Symbol
X	G3	C3	N3	Whole Mark/Demark Symbol

In this paper I cannot describe each of these completed signs. Instead I hope only to give an overview of Deleuze's (Peircian) semiotics of the cinema.

In this essay I have revealed the Peircian structure of signs underlying Deleuze's cinema books. My aim hasn't been to explain these signs in any great detail, but to make the structure, and its flexibility, clear. This is because it isn't just a structure of signs in Deleuze's cinema books, but it represents a Peircian semiotics of the image applicable to the entirety of the cinema, in the same way Peirce's signs are applicable to the entirety of the material world.

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