

# Living or Leaving the Techno-Apocalypse: Paul Virilio's Critique of Technology and Its Contribution to Architecture

JORGE OTERO-PAILOS, *Massachusetts Institute of Technology*

*Neo: What truth?*

*Morpheus: That you were born a slave, Neo. Like everyone else, you were born into bondage, born into a prison that you cannot smell or see or touch. A prison . . . for your mind.*

—*The Matrix*

Although Virilio is a strong critic of technology, his *War and Cinema* was central in shaping many architects' enthusiasm for digital imaging technologies. To assess how this paradox is possible, I consider the soundness of Virilio's arguments about the relationship of technology to modern experience, to epistemology, and to history. I describe how Virilio constructs history as a teleology driven by a technological spirit that defeats itself. His line of reasoning is premised on the problematic assumption that reality and agency have been eliminated from subjectivity, and that subjectivity has been delivered over to technology. Virilio's main criticism of technology is in fact its hypostatization.

## The Reception of *War and Cinema*

IN AN ATTEMPT TO CALL ATTENTION TO THE ESCALATING HEIGHTS OF the cold war, and to raise the general awareness of the increased power of the United States of America in Europe and the world, Paul Virilio (b. 1932), the French historian and critic of technology, published *Guerre et Cinéma* (1984).<sup>1</sup> The book's publication was framed by renewed U.S. pressures to expand the powers of NATO and by Ronald Reagan's *Star Wars* plan to establish a space-based antiballistic system that would presumably keep watch over the entire world. Assuming a polemical and argumentative strategy, Virilio located the foreign policies of the U.S. within a broader historical discussion about the constitution and exercise of power in the twentieth century. The present, according to Virilio, is the final moment of a long "transpolitical era," known as modernity, in the course of which technology has come to dominate all aspects of life. In order to prove this, *Guerre et Cinéma* focuses on the technological convergence of the parallel histories of war, politics, and visual aesthetic practices. The principal reason for the union is that technology has slowly appropriated our "logistics of perception," and has therefore come to mediate all understanding of reality. According to the author, because people have been increasingly separated from the world by simulations, we no longer have access to the real, and can therefore only truly know the technologically altered. Technology is thus cast as the central agent of the modern experience. It is no longer a simple means of manipulating the real.

Rather, it has come to dominate the knowable. To rule the world one no longer needs to be concerned with scoring territorial conquests but only with appropriating the fields of perception of its subjects; that is, one needs only to control technology. This point leads Virilio's commentators to claim that his work, in reconceptualizing epistemology as "techno-epistemology," is a radically new analysis of modern experience.<sup>2</sup>

The 1989 English translation of the book, entitled *War and Cinema: The Logistics of Perception*, became popular in art and architecture circles.<sup>3</sup> Surprisingly, Virilio's critique of technology was most welcomed by those architects and educators who espoused the computer as a design tool. Soon thereafter, Virilio was featured in mainstream magazines, such as *Domus*, *ArtForum*, and *Flash Art*, as a thinker whose acumen gave us an uncanny insight into our own reality. His descriptions of the all-pervasive nature of technology made it important for us to deal with digital media, but his arguments about the need to move away from technology and return to bodily experience fell on deaf ears. Or did they? Did we fail to heed the call of the prophet, or did he fail to make his point convincingly? To answer this conundrum, we need to take a closer look at the reasoning behind his critique of technology.

By the mid-1990s, Virilio was regularly included in readers of architectural theory, and class syllabi.<sup>4</sup> The Anglo-American architectural academy moved retroactively to include the work of this heretofore anonymous figure in its history, and has since become more interested in his earlier, more architectonic works. Virilio's 1975 exhibition catalogue for his photographs of the World War II Maginot Line appeared in 1994 as *Bunker Archeology*. The theme of the technological replacement of the human sensorium is already present in this book, albeit in a much more impressionistic fashion than would later be formulated in *War and Cinema*. Other themes, such as the possibility of resisting technology's co-option of life through the awakening of alternative bodily experiences, date back to the 1960s.<sup>5</sup>

Who, then, is this influential thinker? Virilio's career shifted from painting to architecture when, in 1963, he established an association with Claude Parent to design the church of St. Berandette in Nevers (completed in 1966). Virilio and Parent published the journal *Architecture Principe* as a "permanent manifesto" of their theoretical postulates. In these early texts, Virilio formulated what he called the oblique function, positing that tilted planes represented the "dynamic" fusion of the more "static" vertical and horizontal Euclidian axis. The use of these canted, folding surfaces in construction would create spaces intended to encourage bodily movement and an increased awareness of the corporeal. The con-

cern for mobility and flexibility that he expressed resonated with the work of contemporaneous groups like Team X, Archigram, and the Metabolists. However, he differed from these groups in his more radical resistance to a reliance on technology as the agent of mobility. For Virilio, dynamism should be corporeal and perceptual, resulting from shifts in location and orientation as inhabitants move through the oblique surfaces of megastructures.

In 1967 Virilio accused Parent of being a victim of bourgeois ideology, and the *Architecture Principe* group was dissolved. Frustrated with architecture, Virilio redirected his attention to the image, its technological manipulation, and its effects on politics. Some of Virilio's more interesting subsequent theoretical formulations find their common root in this shift. *War and Cinema's* relevance to architectural theory is both underscored and made possible by its position at the crossroads between our discipline's interest in Virilio, and his own disillusionment with architecture's ability to help us resist technology. *War and Cinema* is the first instance in which Virilio elaborates what has since become his trademark: the loss of architecture, and all other "real-time technologies," to the temporal and spatial distortions of ever present visual technologies—that is, to the virtual.

## Techno-epistemology

Historically, *War and Cinema* locates the shift from the real-time image to the virtual in World War I. During this global cataclysm, technology began to usurp human perception on a mass scale. This process becomes, for Virilio, the defining characteristic of modernity. In visual terms, it is expressed by the technological shift from the static to the moving image, or in other words, to an image system that more closely simulates visual perception in motion. Virilio understands cinema to be the first modern equipment aimed at replacing the eye, and therefore, in his view, also at colonizing the cognitive capacity of its consumers. Giovanni Pastrone (1882–1959), the Italian film director, is credited with the doubtful honor of pioneering one of the first encroachments of the technical upon the sensory. The innovative traveling shot sequences in Pastrone's *Cabiria* (1914) are said to demonstrate that the camera's function had evolved from an apparatus for producing images into a mechanism "to manipulate and falsify dimensions."<sup>6</sup> Thus, for Virilio, Pastrone was evidence that the linear—"Euclidean organization of thought" had come to an end. What replaces it is "cinema knowledge," an altered, dream-like state of consciousness produced by the cinematic manipulation of true dimensions.<sup>7</sup>

Paralleling cinema is war, and especially air warfare, where Virilio finds an equal falsification of the normative experience of space and dimensions, along with an equal induction of a trance-like state upon its human observers. Virilio identifies the Red Baron's (Manfred von Richthofen) introduction of the "flying circus" (wing formations containing four squadrons of eighteen aircraft each) as the moment when "in principle there was no longer an above or below, no longer any visual polarity. . . . Airborne vision now escaped that Euclidean Neutralization which was so acutely felt by ground troops in the trenches."<sup>8</sup> Virilio couples the technologies of war and cinema in the mind of the spectator. D.W. Griffith (1875–1948), the American film director, is the ur-viewer. He was not only familiar with Pastrone's work but had also been commissioned to document the war by the Allies and was present at the front. "In the face of modern warfare," writes Virilio, "Griffith doubtless felt the same kind of bitterness that he had already experienced in watching Pastrone's *Cabiria*."<sup>9</sup> Griffith's perception is the foundation for the equation of war and cinema as two similar types of technologically induced subjective experiences. This is, for Virilio, the first historical step towards the eventual complete replacement of our sense organs, and therefore of our reality, by the virtual.

In accounting for the progressive replacement of proper bodily vision with mediating technological interfaces, Virilio systematically recasts the individual as either the military masses or the civilian masses. To emphasize the notion that history moves in a singular, predetermined direction, he sets up parallel accounts leading to the same progressive alienation of both groups from reality.<sup>10</sup> Whereas the military's rift in experience was brought about by new weaponry, that of civilians was produced by cinema. By resorting to the language of inevitability and necessity characteristic of deterministic histories, Virilio attempts to establish what he calls the "osmosis between industrialized warfare and cinema." In the "military-industrial era," film extends to the broader social body the same technological violence as that produced by the military. The new film industry is portrayed as a perfected syncretic extension of previous inventions, which it logically and effortlessly supplants, replacing reality with a new kind of order: "The cinema-town (Cinecittà, Hollywood . . .) of the military-industrial era succeeded the theater-town of the ancient City-State. . . . The cinema trance, like that of the combatant, rested upon a certain kind of social suffering, the daily grind into which life was reduced in over-populated suburbs . . . the essential capacity of cinema in its huge temples was to shape society by putting order into visual chaos."<sup>11</sup> The importance of film and of the military is, to sum up Virilio's argument, that they catalyze the coming of the modern era. They are at once

the violent industrial weapons that splinter the old sensorial coherence of the world and that reconstitute the new perceptual order. Technology assembles the old fragments into a new image-world with a distorted temporal and spatial logic. The world is no longer immediately apprehensible, but stands beyond, inaccessible behind the newly composed reality. Human perception does not change; in short, it is replaced by technology.

Virilio's presentation is obviously problematic. The grounding proof of Griffith's perception is a pure supposition, while his interpretation of visual technologies as usurpers of normative experiences of the world relies on the presupposition that images *are* vision. From an art historical standpoint, the idea appears somewhat naive, or perhaps simply uninformed. Virilio's argument that representations of space, such as cinema, can supplant the sensory perception of space conflates the two unconcernedly. It remains oblivious to the profound impact that Erwin Panofsky's 1927 essay "Perspective as Symbolic Form" had on the field's understanding of the relationship between the sense of vision and its representations.<sup>12</sup>

The crux of Virilio's objection to modern technology is his understanding of it as an agent of separation from a more immediate experience of the world. Written into his text is the claim that our increasing dependence on technology comes at the price of a "fuller," "richer," "more meaningful" life experience. His focus on the sense of vision as the pillar of techno-epistemology suggests the possibility of *other* epistemologies—presumably to be built out of our other senses—but at the same time precludes them. In Virilio's model, traditional epistemology has evolved into techno-epistemology. Other undistorted forms of cognition are impossible in the present. We are unable to know the world and therefore to act in it without the mediation of technology. The equation removes agency from the subject. All that is possible is a direct correspondence between the desires of those in power and the fulfillment of those desires by those below. In Virilio's history, however, there is no one at the helm but technology. Industrial capitalism has one goal, the "delirium of production," which comes "from technology itself rather than from the politicians, armies or general staffs."<sup>13</sup> By leaving the human beings responsible for the exercise of power and the control of production out of the equation, he portrays technology as a self-propelling force: the very force that rips the possibility of self-knowledge out of the present and into some unthinkable past or future. Virilio constructs the present as though we were caught in the virtual matrix of technology. Like Morpheus, he hopes to wake us from our dream-like state and encourage us to join in the struggle as we wait for the coming of the savior.

## Technology and the Modern Experience

Much has been said about both the role of technology in experience, and the function of vision in epistemology. This is not the place to review that literature, but I would like to suggest that Virilio's perpetuation of what are by now ubiquitous arguments about modernity has contributed to the positive reception of his theories in architecture. If there is to be a canonical history of the role of World War I in shaping modern consciousness, it is best described by the work of Paul Fussell and Stephen Kern. Fussell's widely influential book *The Great War and Modern Memory* (1975) characterizes the years of 1914–1918 as a systematic break with all aspects of human experience. Fussell presents a simple and naive nineteenth century that is radically transformed by the war: "The Great War took place in what was, compared with ours, a static world, where the values appeared stable and where the meanings of abstractions seemed permanent and reliable."<sup>14</sup> Fussell contrasts this scenario to the postwar era, when, in his view, an unprecedented "modernity" and complexity permeated all aspects of life. Similarly, Kern's *The Culture of Time and Space* (1983) argues that World War I obliterated the experiential paradigms of those living in the period immediately preceding 1914: "The war ripped up the historical fabric and cut everyone off from the past suddenly and irretrievably."<sup>15</sup> For Kern, history and civilization ended in the western front's lines of trenches. Fussell and Kern present a limited singular model of the period that preceded the war in order to make the thesis of a homogeneous worldview exploding into a plethora of fragmented perceptions convincing. Virilio has internalized this conception of modernity to such a degree that he does not find it necessary to discuss attitudes towards technology, cinema, war, or power before the war. Historians like Daniel Pick, however, have questioned the presumption of pastoral passivity and provincial mind-set that is often projected on the nineteenth century.<sup>16</sup> Virilio's construction of a radically new modernity resulting from war presents us with a highly idealized juxtaposition of past and present, which imbues technology with a range of philosophical, evolutionary, and psychological functions—and in fact eerily echoes the war philosophy of the nineteenth century.

Virilio falls short precisely where we would expect him to take a more nuanced look at the technological mediation of experience. That is, at the level of the relationship between vision and epistemology. Although he cites Maurice Merleau-Ponty, Virilio neither elaborates an argument based on that philosopher's critique of occularcentrism, nor on his description of the body-subject. The

only way to understand the enthusiastic reception of Virilio's incomplete and poorly grounded disparagement of vision and techno-epistemology is to turn to the historical context. By the time Virilio's thinking began to circulate, the critique of classical epistemology by the Frankfurt School (Adorno) and phenomenology (Ricoeur, Gadamer) had gained wide acceptance. These writers critiqued the identity theory of specular thought, which constructed "reflection," "speculation," and other forms of self-knowledge as the action of our "third" or internal eye seeing itself in infinite mirrorings, by pointing out a contradiction: although the specular model presents the difference between subject and image, it also conflates the two, merging identity and nonidentity. *War and Cinema's* epistemological claims are written as though in a historiographic vacuum. The reception of his work was facilitated by the fact that he aligned himself with these critiques, although he constructed his argument from a radically different philosophical position.

### Technological Determinism

Virilio organizes the history of the twentieth century according to technological benchmarks. He circumscribes his narrative to a presentation of technological inventions in isolation from their social and cultural context. Historical continuity is thus reduced to technological continuity, and the result is a historiographical model of vulgar technological determinism. The general structure and conclusion of *War and Cinema* betray Virilio's conviction that underneath the chaotic randomness of war, he has discovered the evolutionary design of history's teleology. Virilio misconstrues the semblance of coherence offered by his linear narrative as a latent historical structure propelling the erratic phenomenon of war towards a definitive end. He identifies the final moment of history as the present, which he describes as the period when technology has totally replaced vision, and all that is knowable is the technological: "One could go on forever listing the technological weapons, the panoply of light-war, the aesthetic of the electronic battlefield, the military use of space whose conquest was ultimately the conquest of the image. . . . It is subliminal light of incomparable transparency, where technology finally exposes the whole world."<sup>17</sup>

Virilio contradicts his own assertion that the history of technology has a clear direction and end by repeatedly portraying technology as a random endogenous force, as an unpredictable and indomitable machine operating independently of civil society,

which disrupts humanity periodically with its negativity. "Terrorism," he states in the opening remarks of the book, "insidiously reminds us that war is a symptom of delirium operating in the half light of trance, drugs, blood and unison."<sup>18</sup>

The unreconciled double interpretation of war that permeates Virilio's work (either as a techno-industrial machine spun out of control, or as a side effect of a technologically driven historical process of unfolding, ordered, power structures) was already present in Europe during the latter half of the nineteenth century. It was during this period that great efforts were made, especially in Britain, to domesticate the image of the army. The goal of the modern army was to render what was essentially chaotic and instinctive (i.e., violence) into a rationalized and orderly system of rules and procedures. In Britain, the Cardwell reforms of the 1870s aimed at contesting the generalized perception of the army as a parasitic coterie of itinerant hooligans, with rebellious or even revolutionary tendencies, that stood beyond the law and were led by a "hard-drinking" officer class. Rationalization and standardization, the standards of industry, were marshaled to give violence coherence. Arguably, it was not just the disciplining drills that turned the image of armies from an amorphous mass into ordered industries. Rather, the increasing tendency to measure the strength and organization of armies against industry had more to do with the North American and European armies' increased reliance on industrial mass production to clothe, feed, transport, arm, and direct their vast numbers of soldiers.<sup>19</sup> By the end of the century, the conceptualization of the army as a modern machine had crystallized.<sup>20</sup> But this domesticated image of the army did not succeed. The understanding of armies and war as uncontrollable irrational forces persisted, but the senselessness once thought to be the prerogative of soldiers was now understood as the domain of technology. In brief, the two general attitudes towards technology latent in *War and Cinema* are in fact perpetuations of unresolved historical views dating back to the nineteenth century. Virilio's claim that World War I engendered a new technological condition that affected our perceptions of the world is undermined by his own indebtedness to conceptions predating 1914. More importantly, by relegating violence to the domain of technology, Virilio casts it as the other of subjectivity and civilization, absolving our continued use of it to carry out unthinkable brutalities.

Remarkably, Virilio remains blind to the most challenging dimension of the study of technological power: he is oblivious to the various ways in which power is resisted, subverted, or alternatively, buttressed at the level of the individual. To follow Foucault, power is a two-way relationship that is experienced and perpetuated by

those inside the power relations. It is not a force outside of humanity. The kinds of knowledge presented in *War and Cinema* exclude the knowing person. In *War and Cinema* there is a significant absence of evidence documenting the everyday life experience of a paralyzing dependency on technology, because it is taken for granted. Little attention is paid to accounts of men and women testifying to their consent or resistance to the violent removal of their agency.

### Negative Apocalypse

We are now closer to answering whether architects have failed to heed Virilio's prophetic warning calls, or whether his prophecies, although interesting and thought provoking, fail to stand up to reason. The question is still pending of how, if subjective agency has been liquidated, we will ever be able to free ourselves from technology's hold. For Virilio, modern technology has numbed our body to the temporal and physical experience of the real according to the same perceptual logistics of vision: distance. With our senses deprived, we can no longer experience time or space and thus technology makes the present burn eternally before us as a final, still image of history. According to Virilio, technology has taken both place and body out of the equation of existence, and replaced them with frozen time. The *now* precedes the *here*, but it is a now that can go nowhere. The kind of technological speed that Virilio posits is light speed, or the type of infinite velocity where bodies disappear in an unthinkable stretching over space and time, only to remain immobile. Virilio buys his critique of the essentializing logic of technological vision in western epistemology at the price of essentializing history. *War and Cinema's* concluding chapter, "A Travelling Shot Over Eighty Years," makes this essentializing undercurrent clear: history is *nature morte* in some ideal state of stasis, and as such, one can scan over its immobility with the commanding eye of a cameraman. Technology is history, but since it is a history that no subjects can experience, it is actually stuck as the ever-present.

The success of Virilio's critique of technology therefore rides on his ability to prove that history is at a standstill. He does not convince us of this fact. Like Morpheus, he can only show us the door, but we must ultimately step through it. But how can this happen? How can we react against the replacement of our senses if we can no longer know ourselves? Virilio tells us that since the great industrial machine of World War I shattered the perceived coherence and wholeness of the nineteenth century world, we have been living a technologically decentered subjectivity, which he equates with the experience of modernity. This is in fact the very concept

Hegel refers to in *The Philosophy of History* (c. 1831) as "exteriorization" (which Marx would later appropriate as "alienation"), in describing how the object is an unstable part of a social and historical process leading beyond it—although for Hegel this process does not originate in industry. Virilio sees technology as the driving force of a singular historical process that will eventually lead (or has already led?), in the Hegelian sense, to "Sublation" or the final unfolding of history and the spirit.

Clearly, Virilio is not optimistic about this final outcome. In his final moment of history, there is no possibility for emancipation. Rather, turning Hegel *against* Hegel, he offers us a dialectic that *defeats* spirit. In *War and Cinema*, the Enlightenment belief in history as a forward movement of progressing civility is not overturned, it is simply reversed. Virilio maintains the teleological view that modernity is characterized by the continuous perfection of structures towards particular ends. In his account, however, that end is shot through with negativity: It is a negative apocalypse, with no salvation and no redemption, only hell on earth. Midway through his book, the title of chapter three warns us: "Abandon All Hope, Ye Who Enter the Hell of Images." Instead of closure and future bliss, the end of history is turned into a techno-epistemological image that stands still as every aspect of the world's reality is at once consumed and reproduced by a satanic endogenous technology. The destruction of the world as we know it is understood as a self-perpetuating loop carried ad infinitum. Cinema is the prow of a technological force perpetuating the repetitive and endless experience of the end: "After 1914 . . . the Americans . . . were building their great cinema temples—deconsecrated sanctuaries in which, as Paul Morand put it, the public sensed the end of the world in an ambiance of profanation and black masses."<sup>21</sup>

Reason is the first victim of this negative apocalypse. Incapable of knowing reality, humanity can no longer think. Perhaps influenced by his reading of Ernst Jünger, Virilio imbues cinematic technology with all the irrationalism and mysticism necessary to make this loss credible. "War is cinema," he declares solemnly, insisting that wars are, like movies, the kinds of "forces of affective, mystical or collective origin," capable of moving the "thinking of nations."<sup>22</sup> Inside the "great cinema cathedrals" the masses are supposed to have absorbed the guiding mystical postulates of the techno-industrial state.<sup>23</sup>

To the degree that Virilio characterizes the negation of civilization as the return to a world governed by enchantment and occultism where people can no longer exercise their powers of reason, he partakes in Karl Popper's theories on the subject. In *The Open Society and its Enemies*, Popper claims civilization was

born in the shock of moving from a “tribal or ‘closed society’ which submitted to magical forces, to the ‘open society’ which set free the critical powers of man.”<sup>24</sup> Where he sets himself apart from Popper, however, is in his apocalyptic rhetoric. Popper’s work is in fact aimed at exposing the dangers of such modes of historicizing. Attempts, like Virilio’s, to deal with society as a whole, “leaving no stone unturned,” are suspected of what Popper calls “utopian social engineering.” Through Popper’s lens, we find in the shadow of Virilio’s thinking a dangerous and a more or less whimsically aesthetic “blueprint for society,” which, in order to be achieved, must eradicate from the world all that it does not anticipate. Like all utopian engineering, it presupposes (or at least desires) a tabula rasa or an apocalypse.<sup>25</sup> The danger of such reasoning is that, being born out of an aesthetic vision, it is beyond the scope of scientific analysis. In its more physical expressions, it can lead to the sort of irrational violence that characterizes most revolutions. In its more abstract expressions, such as Virilio’s critique of technology, this thinking is burdened by the same teleological metaphysics of history and stands equally outside of the realm of reason, except that the violence is now performed on concepts, not on bodies.

Popper believes that the utopian thinker’s desire for apocalyptic events is the precondition for the establishment of their own kingdom on earth. But as we have seen, Virilio’s apocalypse is negative; it does not hold the promise of a better future. His final moment does not disclose the truth of history; on the contrary, it veils it completely. How then can we understand Virilio as a critic of technology and not just as a fatalist or a pessimist? Where is his blueprint for society? It is implicit in his historical construction. However, in his case, the new order cannot result from the current technologically driven history. *War and Cinema* is an attempt to prove that western history has fulfilled itself by defeating itself. It has ended. This is how Virilio gets out of the historiographic immobility proposed by his own theoretical web. Precisely to the degree that the historical drive of technology does not result in an apocalyptic disclosure of truth, but in a negative apocalypse where the final resolution of history is endlessly postponed and truth veiled, technology reveals the truth of its own artificiality.

Virilio’s final moment of history holds no future, but it does offer an insight, that of its own lie. The door that Virilio asks us to step through in order to free ourselves has “I am not reality; reality is on the other side” written across the lintel. *War and Cinema* is an attempt to awaken the world to this new reality. Virilio’s blueprint is defined as a rejection of technology: We must look away from technology, away from the “hell of images,” and seek to experience

the world and history, time and place directly, bodily, without mediation.<sup>26</sup> The problem is, as I hope to have made apparent in this essay, that the immediacy Virilio desires in experience is not the idealized essence he wants it to be. It is not waiting, pure and absolute, outside of history. In fact, the problem of getting out of history is a historical problem. In order to demote technology, Virilio has delivered the whole of reality, including himself, over to it. It is no coincidence that architects and technophiles should enjoy the wonderful catalogue of technological facts he presents, and ignore his critique: His argument undoes itself.

## Notes

1. I wrote the first version of this paper for a Ph.D. seminar on war and modern memory taught at MIT by Professor Hélène Lipstadt in 1997. Thanks to her and Professor Mark Jarzombek’s thoughtful criticism and unflinching standards, the paper has evolved into its present form.

2. Sylvère Lotringer introduces the term “techno-epistemology,” in a long interview with Virilio that was published as *Pure War*, Mark Polizzotti, trans., Foreign Agents Series (New York: Semiotext(e), 1983). The book introduced Virilio to American academe.

3. As a result of the success of Paul Virilio’s *War and Cinema: The Logistics of Perception*, Patrick Camiller, trans. (London and New York: Verso, 1989) in the English-speaking academic world, a number of his books were translated in the nineties, including *The Aesthetics of Disappearance* (1991), *The Vision Machine* (1994), *Open Sky* (1997), and *Politics of the Very Worst* (1999).

4. More recently, *The Virilio Reader* (Malden, MA: Blackwell Publishers, 1998) has found its way to the presses.

5. See the catalogue for the 1997 exhibition “Architecture Principe” held both at the Architectural Academy in London, and at Columbia University in New York: Paul Virilio and Claude Parent, *Architecture Principe*, George Collins, trans. (Paris and Los Angeles: Les Editions de L’Imprimeur, and Form Zero Editions, 1997). Prior to this publication, Joan Ockman had published Virilio’s 1966 essay “The Oblique Function” in her valued anthology (now a standard teaching text), *Architecture Culture 1943–1968: A Documentary Anthology* (New York: Rizzoli and Columbia Books of Architecture, 1993), pp. 408–11. Ockman describes Virilio’s formulations about oblique planes and megastructures as a variation on contemporary theories on mobility, open form, and flexibility. Ockman justifies the article’s inclusion in a reader of postwar theory, not because of Virilio’s influence on contemporary practices (which she in fact plays down), but rather in light of his later development into “an important theorist of postmodern culture and urbanism” (p. 409).

6. Virilio, *War and Cinema*, p. 16.

7. See Virilio’s comments about Walt Disney in *War and Cinema*, p. 47.

8. *Ibid.*, p. 18.

9. *Ibid.*, p. 16.

10. One of the ways this comparative parallelism is sustained is by establishing equivalencies between inventions from various disciplines on account of circumstances such as appearance, partial function (both rifles and cameras require aiming, therefore they are the same), effect (both cinema and weapons surprise the viewer, therefore they are the same), composition (nitrocellulose was used in both film stock and ammunition production), and operator (war pilots used both guns

and cameras and therefore the two are related), and by then moving the narrative from one to the other, so as to create a sense of necessary continuity.

11. Virilio, *War and Cinema*, pp. 38–39.

12. Panofsky pointed out that perspective was a rationalization of space whose inner logic had more to do with the fixed mathematical precepts of descriptive geometry than with the fluid, binocular nature of the sense of sight. By comparing different perspectival traditions, he unveiled perspective as a practice whose currency and value was historically contingent and culturally determined. See Erwin Panofsky, *Perspective as Symbolic Form* [1927], Christopher S. Wood, trans. New York: Zone Books, 1991).

13. Virilio, *War and Cinema*, p. 7.

14. Paul Fussell, *The Great War and Modern Memory* (London: Oxford University Press, 1975), p. 21.

15. Stephen Kern, *The Culture of Time and Space, 1880–1918* (Cambridge: Harvard University Press, 1983), p. 290.

16. See Daniel Pick, *War Machine: The Rationalization of Slaughter in the Modern Age* (New Haven: Yale University Press, 1993).

17. Virilio, *War and Cinema*, p. 88.

18. Ibid., p. 5.

19. Pick, *War Machine*, p. 174.

20. See John Kegan, *The Face of Battle* (New York: Viking Press, 1976), p. 18, and Foucault, *Discipline and Punish: The Birth of the Prison* [1975], Alan Sheridan, trans. (New York: Vintage Books, 1995), pp. 156–62.

21. Virilio, *War and Cinema*, p. 31.

22. Virilio (*War and Cinema*, p. 30) is quoting Gustave Le Bon, *Enseignements psychologiques de la guerre européenne* (Paris, 1916).

23. Virilio, *War and Cinema*, p. 31.

24. Karl Popper, *The Open Society and Its Enemies, Volume I: The Spell of Plato* (Princeton NJ: Princeton University Press, 1966).

25. Ibid., p. 164.

26. For some of Virilio's latter arguments on the necessity of regrounding experience in the body, see Paul Virilio, *Cybermonde: La Politique du pire* (Paris: Les Éditions Textuel, 1996), pp. 39–69.