

"Paul Virilio: Resistance to technology and the recovery of the body"

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“Paul Virilio: Resistance to technology and the recovery of the body”

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Sainte Bernadette du Banlay,
Nevers, Francia, 2003 ©2020
Paul Virilio y Claude PARENT
(1964-1966)



Ecatepec, CDMX, 2013
Photograph: Pablo López Luz

Acknowledgment

“To start is easy, to keep on is difficult” Japanese proverb.

“There are two types of people, those who finish what they started, and everyone else.” Robert Byrne.

This thesis is the result of a very extensive research work on Virilio, which I have been intensely developing since year 2003, when I obtained the Advanced Studies Diploma that accredits my proficiency research (UPC-ETSAB).

I should like to express my sincere gratitude to my relatives for their support and empathy; to my friends for their motivation; to scholars for their guidance; and to collaborators for their assistance.

My recognition to my family for their patience and trust during this process, and to my parents for their impulse

My appreciation to Ana Elena Tappan (former Cultural Affairs Assistant at the U.S. Embassy in Mexico City) for her contribution in translating texts from Spanish to English and English to Spanish; to Ricardo Tappan (UDLAP) and Yaxal Hernández (CENTRO) for their editing and graphic design work; to Isabel Rios (ETSAB), Mario Rodríguez (CENTRO), and my former students Claudio Resendiz (UTSA), and Nicolás Fernández (UDLA) for doing documenting and editing tasks.

I also especially thank PHD Xavier Costa Guix (Northeastern U.) Director of this thesis since 2003. My recognition to former Co-Director Xavier Llobet (ETSAB) for his interest and comments until 2019; to Manuel Gausa (UNIGE) for his support and empathy during various stages of the process, and as the President of the Jury; to Nicola Canessa for having been a kind host during my research stay in Genoa (GIC-LAB); to José Ballesteros (ETSAM), Ricardo Debesa (Ramón Llull), Pau Sola Morales (EINA), and Ernest Ferre for their willingness to form part of the jury; to Giorgia Ricci (UNIGE-ListLab), Maite Bravo (BCIT), Héctor Mendoza (ETSAB), and Pablo Ros (Iaac) for their disposition as candidates for external reviewing of this thesis.

And to other experts on Virilio: John Armitage (U. of Southampton), and Neil Leach (EGS-UCS) for their exchange of opinions, comments, and suggestions.

And, finally, my recognition to the Doctoral School of the ESARQ, specially to the Coordinator PHD Vincenc Serrablo (UIC), and PHD. Alberto Estévez, Tutor of this thesis work.

SUMMARY

Years before his death in 2018, I had the opportunity to interview Paul Virilio in “la Rochelle.” He was a radical Architect, a visionary urbanist and a prize-winner French critic; distinguished philosopher in technology, author of phrases like “the screen has become the square of the city.”
v.ii.5.0

Taking into consideration that in year 2050 two thirds of the population will live in cities, and the importance of recovering the body, which has become global because of the current coronavirus crisis, this thesis concludes that, for Virilio, the “**Ultracity**” and the body are the last fronts of resistance before speed, acceleration, and accident of the new information and communication technologies on physical space and time.



2005-05_30_Interview with Paul Virilio (Paris,1932-2016)_La Roche

For the first time, an Atlas documents his prolific writing works - 47 books, only 23 of them in Spanish - allow us to travel into his vertiginous world of space occupation by speed, and the urbanization of technology.

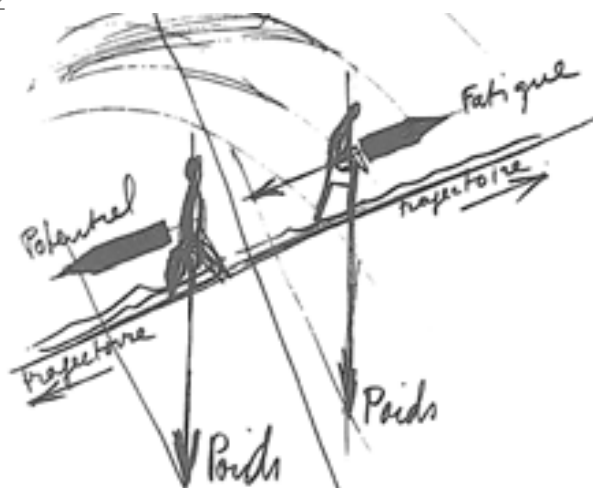
The thesis identifies four concepts, which prove that resistance to military, communication, transportation, and information technologies, is the common thread of Virilio's works.

The **Bunker** gets its form from the resistance to the speed of projectiles. It is independent from the ground, but yet is part of the territory; describes the importance of Sainte Bernadette du Banlay in Nevers, built manifest between 1963 and 1966. A National- Monument Church in France.
vii.5.1



v.ii.5.1_Bunker church_Sainte Bernadette du Banlay
1963-1966, Nevers

The **Oblique Principle**, a new order against "orthogonality," the inclined plane as motor that moves the body, generating fatigue when ascending, and potential when descending; that resists to Communication technologies, the invasion of the TV at home in the 1960's.
v.ii.5.2



v.ii.5.2_Oblique Principle

“**Dromology**”, from Greek dromos: Race. His treaty on space occupation by speed: For one part, it reveals the loss of relevance of physical space due to the immediacy, ubiquity, and synchronization of technologies. For the other, it affirms that without time there is no space; and without space there is no body, demanding to Architects for a solution for resolving the relation between real space and virtual space.

v.ii.5.3

Did you know that the elevator is the most used vehicle?

In the “**Ultracity**”, the sedentarisation of masses of people in very high-building urban developments, non-exit vertical alleyways (cull-de sacs in the air), which confine the motionless body transported by elevators, faces the drifting of migrations between cities. Both phenomena co-exist with the digital city of screens and mobile devices that redefine the new places.

vii.5.4

On one side, there is the central idea of returning to the body in order to resist the negative consequences of communication technologies on the territory, and devices in people. On the other side, there is the idea of incorporating, rationalizing, and humanizing the new information technologies in order to reconcile the physical city and the digital city.

I conclude that for Virilio, technology and speed make space relative and the need to rethink architecture and the city. Architecture is not only vulnerable to bombs, but is defenseless upon digital technologies of information and communication that transgress the doors and windows of our homes, reorganizing the time and the space we live at.

Text of my participation in the contest: “Presenta tu tesis en cuatro minutos” (Present your thesis in four minutes), ESARQ, June 5th, 2020



v.ii.5.3_Los Angeles 2049_Blade runner 2_2017

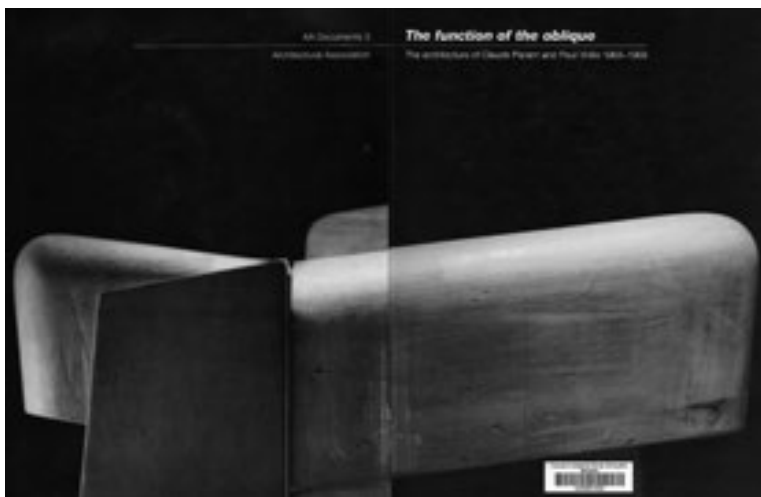


v.ii.5.4_Media Burn-AntFarm John F Turner 1975

I INTRODUCTION

I got interested in Paul Virilio, first, as a student of the Master's Program, Design Research Laboratory at the Architectural Association (AA), London (1998-2000). A study trip to Amsterdam, Rotterdam, Utrecht, and Hilversum in Autumn of 1999, allowed me to visit buildings like the Educatorium and the Kusthal (OMA: 1987-1992); Arnheim Central (UN Studio); Villa VPRO (MVRDV: 1994-1997), which materialized the inclined plane and continuous surfaces as generator of activity and potential agent for new social and space relationships.

And secondly, searching for references for the seminars "Critical Buildings" and "Structural Surfaces," in the former bookstore "Triangle," I looked (for the first time) through the book *Function of the Oblique*, 1998, a publication of the AA, edited by Mohsen Mostafavi (then the Director of AA) and Pamela Johnston. The publication, of the interview with Claude Parent, reviewed the *Function Oblique*, a work of Architecture Principe. I-1



I-1_The Function of the oblique_1996

All of the above revived memories of my childhood. It made me remember feeling vertigo in Cuernavaca (Morelos, Mexico), with the inclination of the urban environment, which adapts to its topography; and in particular, the inclination of house that my father, as an Architect, designed and built in Lomas de Cuernavaca, well-known by the distinguished chapel of Felix Candela, built in the early 60s.

The 90s finished with the influence of the Dutch School in the contemporary architectural discourse, by the hand of manifestos like "Folding in architecture" or "Architecture beyond geometry," and the publication "Anybody" (1997), sixth number of the series of Any Corporation (1991-2000).

After London, me and my wife, moved to Barcelona in September 2000 to continue my PhD studies at the Escuela Técnica Superior de Arquitectura (ETSAB), Universidad Politécnica de Cataluña (UPC), and to extend my scholarship, granted by the National Council of Science and Technology (CONACYT, Mexico) for doctoral studies.

After a first academic stage, being enrolled in the Doctoral Program "The New Instruments of Architecture," in 2003, I obtained the research proficiency (Diploma for Advanced Studies, DEA), after having my research theme been approved:

*Paul Virilio, Technology and Resistance. The **Oblique Principle** from Sainte Bernadette du Banlay, Nevers.*

My thesis work at the ETSAB, UPC, ran until Autumn of 2019; however, due to various administrative reasons, I decided to transfer the research file to the Doctoral school of the Escuela Superior de Arquitectura, ESARQ, Universidad Internacional de Cataluña, UIC., enrolling myself as a PhD student in January 2020, and as a PhD candidate after having presented, again, my theme of research:

*Paul Virilio: Resistance to technology and the recovery of the body; the **Bunker**, the **Oblique**, **Dromology**, and the **Ultracity***

Having left behind the 50th anniversary of the first publication of the Architectural Principe group, led by Paul Virilio and Claude Parent in February 1966; Claude Parent's death in 2016 (RIP); the 50th anniversary of the events of May 1968; and months later, Paul Virilio's death in September 2018 (RIP).

STATE OF THE MATTER

Virilios' theoretical arguments deviate the central importance before in the space, to time; before in architecture, to urbanism; and before in form, to content. These are consequences of his comprehension of the impact of the screens and mobile devices on our lives; of the control, the surveillance, and the militarization of our urban environment; of the growing migration of the displaced by wars due to the climate change and the search for life better conditions amongst frontiers.

Virilio is interested in digital technologies, and his idea of to rationalize them, humanize them, and incorporate them; his warning about the potential thread that each artefact generates its own accident; his conviction of recovering the body from sedentarization, commodification and eugenics; and his calling to the urgent conciliation between physicality and virtuality.

For Virilio, architecture not only is vulnerable to bombs, but proves to be defenceless against the new digital information and communication technologies that transgress the doors and windows of our homes, reorganizing the time and the space we live in.

Background

Years 50s y 60s

The rural Exodus and the appearance of the consuming society, more and more influenced by the massive media communication, generalized the culture of masses in the 50s and 60s. The decade of the 50s saw the rejection of

the modern ideals of architecture, such as Le Corbusier and others from the generation of the "Congreso Internacional de Arquitectura Moderna " (CIAM 1928-1959) and of the Team X; the criticism of the utopias made by Yona Friedman and Guy Deboard, among others.

For the 60s decade, the post-war reconstruction in France had not yet finished ("Grands Ensembles.") But, the architectural proposals already talked about multi-disciplinarity, the need to mix the arts by joining painters, sculptors, and architects. A radical architecture emerged of productive logical systems with networking nature, means of communication, or events. "The Fonction **Oblique**" (1966) of Architecture Principe" co-existed with radical projects, such as "New Babylon" of Constant; "the connected cities of Archigram; the unitarian urbanism of the Internationale Situationiste," influenced by Henri Lefebvre; "Non-stop City" of Archizoom; and the manifestoes of Aldo Rossi; "L'Architecture Della Citta" (1966); and "Complexity and Contradiction in Architecture" of Robert Venturi (1966).

Paul Virilio

Virilio was a student of Merleau-Ponty (1908-1961), who at the same time, was influenced by the "transcendental phenomenology" of Edmund Husserl. One line of philosophy, which arguments that reality (knowledge) is composed by objects and events, as they are perceived by the human conscience (experience)

His contribution may be firstly divided in an artistic phase, in collaboration with talented artists like: Henri Matisse (1950), Georges Braque (1955), and Le Corbusier (1955); followed by the architectural phase in Architecture Principe (1963-1968); his manifestoes, projects, and built works with Claude Parent (1964-1969); and years after, his collaborations with Daniel Libeskind (1997), Diller & Scofidio+Renzo (2008), and Lebus Woods (2010).

Followed by his phase as a critic from 1969 up to his death, phase in which he combined academic activities with his writing and exposed work. His last projects involved

beneficial purposes and assistance-related activities for homeless in Paris.

After having participated in student uprisings in May 1968, Virilio was nominated professor by students. He taught at La Ecole speciale d'architecture from 1969 to 1999; he was the Director between 1972 & 1975: and was professor at the European Graduate School since 1998. He was author and curator of the exhibitions: "La Fonction Oblique;" "Bunker Archeologie" (1975); 'Ce qui arrive and Terre Natale, Ailleurs Commence ici, Fondation Cartier (2002-2003) which would lead him to think about his project for the construction of the first Museum of the Accident.

His first book, Pure War (1986 [1983]), ironically was not written by him, it is a result of the edition by Semiotex(e) of the interview (1982), held with his friend and colleague Sylvere Lotringer, who introduced his thinking to the culture and the avant-garde architecture in the U.S.

Architectural Principle 10

In order to commemorate the 30th anniversary of the manifesto Architecture Principe (1966 & 1996), the French Ministry for Culture and the Arts, together with L. 'Imprimeur editors, join contributions of Coop Himmelblau, Daniel Libeskind, Jean Novel, Francois Seigneur, and Bernard Tschumi; who influenced by Virilio and Parent, contribute with their vision of the **body** and space, from their architectural theory and practice.

I-2



I-2_Architecture Principe_1997

Actual state of the matter:

Paul Virilio

Virilio passed away in September 2018. His written work, in the phenomenology line of Merleau-Ponty, provides a unique critic before the repercussions of the impact to the new transportation, information, and communication technologies (TIC) on the space and the body; as well as its affectation on the society and the city, in relation to the architecture and speed. The urgency to recover the body before the potential and the threat ("the accident") of TIC of the growing technological culture that favours comfort and commoditization.

Sylvere Lotringer (Paris, 1938), Virilio's contemporary expert, has synthesized the cultural French theory (Semiotext(e)); sees Virilio as a visionary urban planner and the most important philosopher in technology, since Martín Heidegger.

Even though it is difficult to catalogue Virilio's contribution in a genealogy, some experts in Virilio, such as Steve Redhead (1952-2018), theorist of the accelerated modernity; or James Der Derian, University Professor of information technology, describe him as a post-modern.

In my interview with John Armitage in Winchester of 2016, founder and main editor of Cultural Politics magazine, Professor at the School of Art in Winchester (Southampton U.), and until 2016, the most relevant Virilio's researcher and erudite, he considers Virilio to be an "hypermodern" or "new modern," a "brilliant visionary", and he admires Virilio's authenticity and his unique legacy.

"The importance of Virilio's theoretical work comes off from its central acclamation, that in a war-dominated culture, the industrial military complex is significantly crucial in the debates about the city creation and in the special organization of the cultural life" J.A. (2000[2]).

From his part, Neil Leach, Architect and British theoretic, in "The Over-exposed city" (Rethinking architecture, 1999), describes Virilio as a theoretical leader of the cyber-space era. In the magazine AD, Digital Cities (2009), reaffirms him as a theoretic on time and speed, about the cotidianity of digitalization in the form we perceive and experiment the city.

Adam Sharr, British Architect and Chief Editor of the International Architecture magazine of Cambridge University, links with his contribution "Burning Bruder Klaus: Towards an Architecture of Slipstream" (2011), Virilio's architecture with Peter Zumthor's, based on the resistance quality of architecture before the deterioration of the form and significance, an architecture of enclosure, isolated in its interior space.

At present, the relationship between technological nature and the perception of human experience continues to be approached by Bernard Stiegler, French philosopher influenced by Virilio, and Director of the Research and Innovation Institute of the Pompidou Center, mainly in his trilogy "Techniques and Time" (1994, 1996, 2001).

Written work

Virilio's publications (1975-2013) include 43 books in French, out of which 32 have been translated into English; and an uncountable number of articles, contributions, and interviews, to various languages. Only 23 books have been translated into Spanish, which makes noticeable that the transmission of Virilio's work to the Hispanic world is half-way through.

Amongst the most relevant compendium are: *The Virilio Reader* (James Der Derian, 1998); *Paul Virilio: From Modernism to Hypermodernism and Beyond* (John Armitage, 2000); *The Paul Virilio Reader* (Steve Redhead, 2004); and *Virilio Now: Current Perspective in Virilio Studies* (John Armitage, 2011).

There is only one dictionary of Virilio: *Virilio's Dictionary* (2013), a summary of contributions in which various academics and experts in Virilio, develop key words (A-Z) of Virilio's discourse; and one publication: *Virilio for architects (Thinkers For Architects, 2015)*, both edited by John Armitage.



I-3_Bunkers-paisajes de guerra en Dunes-Quaderns_1992

In Spain, Daniel Fullaondo introduces his work as Architects in New Form of Alfaguara publishing house in 1968. However, it is not until 1992 that Quaderns publishes for the first time in Spain, under the directorship of Manuel Gausa Navarro, "Bunkers. Paisajes de Guerra / Landscape of War," in number 196 under the title "Dunes/Dunas." Followed by the Croquis sketch with "La arquitectura improbable / Improbable Architecture" in its number Worlds Two/Mundos in 1998.

I-3

During his last two decades of his productive life, Virilio is more inclined to favour the interview format for its agility, flexibility, and versatility, more than the formal academic format, which requires more time and formality. The interview format contrasted points of view, developed concepts, and spread his ideas with more rapidness. This, together with his peculiar form of writing, explains the limited scientific productions about Virilio and his work.

There are few doctoral thesis on Virilio in Spanish that deal with speed, society, politics, and globalization; study fields such as physical science, social and human science, Communication science, social psychology, etc. Today, there are only two doctoral thesis in architecture on Virilio, but they are centred in between years 1958 and 1968, and they basically deal with the **Oblique** Function (ETSAM, 2011), his architecture and physical space (U. Murcia, 2012).

II HYPOTHESIS

II_HYPOTHESIS- RESEARCH QUESTION-TRANSFER

Why Virilio?

Paul Virilio (Paris, 1932-2018), born to an Italian communist father and catholic Breton mother, lived the allied bombing in Nantes during his childhood. He studied German and French phenomenology with Maurice-Ponty at la Sorbonne; was the last of a group of distinguished French thinkers in the second half of the 20th century, such as Michel Foucault, Gilles Deleuze, Jean Baudrillard, and Jaques Derrida. He was a provocative theorist, winner of the "Grand Prix National de la Critique Architecture" (1987), prolific writer, social activist, radical architect, and visionary urbanist. Virilio was author of phrases, such as "the screen has become the square of the city."

Virilio was one of the most important interpreters of phenomenology in recent architecture and urbanism, for his catastrophic perception of the technology induced by war and speed. One of his most important input is to have revealed the logic of speed or **dromologic** (from Greek dromos: race) and political conditions of the 20th century, through a critical analysis of modernism and modernity, with which he significantly contributed to the postmodern theory, to the world culture of information, to the critical cultural theory, to the social and political science, and to the architectural philosophy, with an extensive influence

Therefore, to study his writings on war and territory, technology and resistance, art and the body, space and the city, is necessary in order to understand the fast transformation that has affected our physical environment (space-time), by the advanced military technology, the speed of the mass media, the acceleration of digital technologies, and the exponential growth of the quantity of data and information.

For one part, there is the validation of recovering the body, last front of resistance before the transportation, information, and communication technologies (TIC), and the social networks; to return to have contact with the other and re-think the new public spaces; especially, at times marked by our great dependency in digital technologies of information and communication for the performance of almost any type of activity.

For the other, the city as a place for a new radical urban architecture, able to incorporate the instantaneity of the communications, a perpetual connectivity, and the normalization of a total mobilization, to reprint again the importance of the body and the place; as well as to resolve the division between real space vs. virtual space, and the need to redefine our input to the society as architects and urbanists.

Why this thesis?

In spite of Virilio's important inputs to architecture and urbanism, the scientific production about his works, from these disciplines, is very scarce.

The thesis is inspired by an interview I did to Paul Virilio in la Rochelle, published in the AAFiles 57 (2003), ten years before his death.

A first volume links his built work with his written work, and detects his position of resistance before military technologies, communication, transportation, and information technologies, as a common thread of his legacy; identifying the fundamentals of the Bunker, the Oblique Principle,

and his concepts of Dromology and Ultracity.

A second volume provides an Atlas which, in the form of diagrams, maps his ample and complex written territory. The quadrants, defined by key binomials and oriented routes, allow the reader to navigate through his work about the vertiginous world of the occupation space by the speed and the urbanization of technology; maps of the selection of his most relevant writings about space, architecture and the city; and the constellation of his influence to referents of various disciplines.

HYPOTHESIS

Paul Virilio

The thesis pronounces Virilio as a critic of technology in relation to the speed and in reference to the architecture and the city. The thesis demonstrates that Virilio's fascination as well as his resistance to technologies, are the common thread of his work.

Resistance to technology

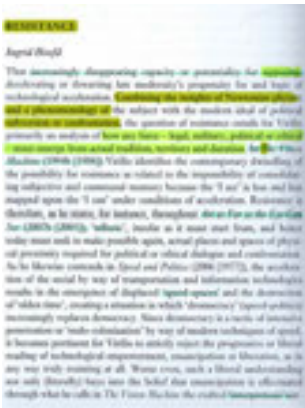
The thesis centers all the Virilian cosmogony in the resistance to the technology for the recovering of the body, and proves that Virilio's work fits in four forms of resistance before his corresponding technologies to recover the body from the impact of technology in our lives. So, I identify four terms which shape four chapters:

V.1. **Bunker**, V.2. **Oblique** Principle, V.3. **Dromology**, and V.4. **Ultracity**.

Although each of the four chapters approach the four concepts of technology as they correspond to each other, it is convenient firstly to define the terms "resistance" and "technology," from Virilian's view point.

Resistance

Virilio combines his understanding of the Newtonian phys-



II-1_Resistance in Virilio's Dictionary
168-169_pg

ics and of the phenomenology of the subject with a modern political subversive ideal; and so he defines that re-sistance should be “telluric” (As Far as the Eye can See [2007(2005)], with the goal of recovering the proximity - in real places and existing spaces - which requires the political ethic of dialogue and confrontation (*Speed and Politics* [2006(1977)]). In his discourse, he positions himself against the transportation and information technologies for its acceleration on the social, and the appearance of the physical space phenomenon, displaced by the speed that generates a situation where the politics of speed: “**dromocracy**” substitutes “**democracy**”; hence, his resistance to the technological empowerment.

In other words, Virilio believes that for a truly “telluric” resistance (of length and proximity) the posture, (echoing Heidegger), “should not only be anti- technological,” but, “it is necessary to obey in order to resist,” becoming an “atheist to technology.”

Technology

Influenced mainly by Martin Heidegger (1889-1976), and Hans Jonas (1903-1993), Virilio approaches his theoretical criticism of technology by means of his vision on the “art of technology,” that is to say, for the relation he establishes between technology and aesthetics; and between space, time, and technology (*Polar Inertia* [2000 (1990)]).

Originally, there is his criticism of the organization of the territory, the case of the Atlantic Wall of the Nazi Germany - the defensive system which expanded from France to Scandinavia during the Second World War; and the organization of the **Bunker** space (1) and the **Oblique** Principle (2), which were a product of his graceful collaboration with Claude Parent (1923-2016).

This is followed by the impact of the revolution of transportation and transmission on politics and the 20th Century society (*Speed and Politics: An essay on Dromology* [2006(1977)]). His examination of the contradictions

amongst the technified vision (The aesthetics of disappearance [2009(1980)]); the phenomenology and his architectonic theory; and the **Dromology** (3), the connection among the technological speed, culture, politics, and society.

The technologization of the human body and the eradication of the geo-physical space, made him worry about the television educational fields, and the tele-action, which carry out to a relocation of the human activities to a planetary scale. In the **ultracity**, the technological mediated city(4), Virilio detects the corrosion of the space and the absorption of his architecture. He gets to transmit his point of view in his discussion on the American cities and their aesthetical and technological aspects of the “over-exposed city.”

Recovering the body:

The thesis proves the centrality of Virilio’s work, as a phenomenologist, on the “human **body**,” and explains his argument of the disappearance of the proper body for the affectation of technologies, which dehumanize the experience.

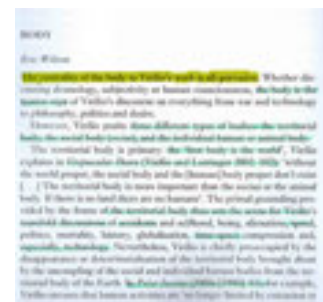
The body

For Virilio, the body may be territorial, social, or animal (individual.) The affectation of the body by technology vanishes the human body, either by the endocolonization (the possession of the body by technology) or its decomposition, and dislocates its presence in the real space-time; while the speed approaches the humanity to the technological abyss.

In the **Bunker** (V.1), Virilio analyzes the defense of the confined body, within the protection of the bulk of its massive structure, self-supportive and independent, but deployed on the ground



II-2_technology in Virilio's Dictionary_188-191



II-3_Body in Virilio's Dictionary_p38

In the **Oblique** Function (V.2), he explores the adherence of the body to different grades of inclination in order to define livable forms of occupation and circulation; and the affectation of the body with the different possible trajectories in the inclined space, effort, balance, and orientation, etc.

In **Dromology** (V.3), he synthesizes the ubiquity, the synchronicity, and the immediacy, qualities of the nature of technologies of communication; and affirms that without time there is no space, and without space there is no body.

In the **Ultracity** (V.4), he foresees the return to the body for the emergency of phenomena of new urban drifts, of inter-urban and intra-urban migrations.

WORK PROPOSALS

Predicted result and possible transfer

I trust that the thesis and its conclusions could be published, either as a whole, or in parts, as I have been doing, in articles and contributions.

First Atlas of Virilio:

The cartographies, maps, and diagrams could be published as the first Atlas of Virilio's. The thesis gathers, for the first time as a cartography, the very extensive written work of Virilio and about Virilio. Routes and quadrants allow the reader to better understand the evolution and continuity of the most relevant concepts linked to each publication, and facilitate navigating through his written work.

It could also contribute to spread, for the first time, some of his concepts into Spanish. It offers the unpublished interview with John Armitage, and translates the interview with Paul Virilio.

To apply his theory to a teaching and design methodology

Through the idea of authorship, Virilio sketches out how the theoretical constructions and his thinking should find a way out to the architectural contemporary practice. Therefore, his concepts could be transferred to define a new interdisciplinary methodology, both in teaching architecture and urbanism, supported by the idea of the real space/virtual space divide; and the design of the architectural project, based on the "triptych" (three projects) and "the mental image," in order to respond, in a better way, the relation amongst the body, architecture, technology, and the city.

Dromopedagogy

How speed and technology may affect teaching agendas and representation methods?

Continuation of the Research

The eventual continuation of this work, in a next post-doctoral stage, would develop the hyper-city, incorporating Bernard Stiegler's work, as the follower of Virilian thinking. And would also develop in the affectation of the big data and augmented reality on real space and the body.

III OBJECTIVES

To demonstrate that the resistance to technology is the common thread of Virilio's work.

To investigate Virilio's work since year 2003, document it since 2013, and justify it through a couple of publications, by various contributions, and by more than a dozen of different communications. The thesis demonstrates the starting hypothesis that, resistance to technology by the **Bunker**, the **Oblique** Function, **Dromology**, and **The Ultracity**, are the four keys to understand his thinking and his work.

To detect relevant links between his built work and his written work.

Virilio's production may be divided into two large stages: The exploration and architectural practice (1950-1969,) and the theoretical and written work stage (starting in 1969.)

The architectural production of Virilio and his written work, apparently loosely linked, form a continuity that helps him formulate, develop his theoretical arguments and his keys concepts, and build his discourse on three main axes: Technology, resistance, and the body.

In "**Ultracity.v2**," just like John Armitage coins the term "hypermodernism" (modernism in speed or accelerated modernism), with which he solves Virilio's non-fitting into post-modernism, I create the term "hypercity," as a continuation of the **ultracity**, suggesting scenarios in Mexi-

co City (CDMX) as a reference to start resolving the real space / virtual space divide. Between sedentarization and nomadism within cities and among cities, and between urbanization and rurality.

The idea of "Ultracity" in Mexico City.

In **Ultracity v.2**, I provide my contribution to Paul Virilio's studies, developing his "**ultracity**" concept by making reference to Mexico City, one of the three megalopolis that attracted his attention and interest

IV. METHODOLOGY

After my research project presentation: "Paul Virilio; Technology and Resistance; The Oblique Principle from Bernadette du Banlay Nevers, 1963-1966;" and as a student of the architectural projects line: "The New Instruments of Architecture," I received the Diploma of Advanced Studies (DEA) or Research proficiency certificate from the UPC-ETSAB.

Research:

In order to know his whole work, I gathered 46 books written by Virilio, 116 articles, 31 magazines, and more than 14 chapters in books.

In the beginning, as an unexperienced reader on Virilio, I faced two problems: His critical medium is frequently multifaceted, constantly wanting to encompass everything and, occasionally, the innermost; and his dense and intense French-style writing. But, to deepen in his written work has the benefit of, inevitably, becoming familiar with some of the most important and essential movements of the Continental philosophy; that ensemble of philosophical movements of the 19th and 20th centuries, that continues with the legacy of Husserl and Heidegger, and which incorporates phenomenology, existentialism, hermeneutics, structuralism, deconstructivism, including modernism and postmodernism.



IV-1_Architectural Association-London_
Jun 2016

Libraries:

Barcelona: COAC, ETSAB, Biblioteca privada de Manuel Gausa, ETSAB, CCCB.

Madrid. Biblioteca privada de José Ballesteros

Londres: Architectural Association library, British Library

Barcelona: COAC, ETSAB, Private library of Manuel Gausa, ETSAB, CCCB.

Madrid: Private library of Jose Ballesteros.

London: Architectural Association library, British Library

IV-1

Archives:

Paris: Centre Pompidou, 2003.

Normandy: Institut Memoires de l'edition contemporaine, IMEC (2020).

The Institute for archives of contemporary publications at the DArdenne Abbey, near Caen, holds archives and writings related to the main editorial French houses since 1988.

Holds manuscripts of Virilio's works, articles of his conferences in France and abroad, his notes of courses, his projects, preparation dossiers for exhibitions, agendas, carnets, and audiovisual documents. The documented correspondence of his texts and notes for the press of his comments on topics, such as: Accidents, catastrophes, bank crashes, weapons, rockets, train stations, bridges, vehicles, towers, cities, and bunkers, complete this ensemble of entries and emissions register.

Museums and exhibitions:

Paris: Pompidou Center (2002)

Orleans, France: Frac Centre-Val de Loire (2007). The museum of contemporary art, is part of the national net "FRAC" of regional art; holds an important collection of

sketches, blueprints, and scale models of built and non-built projects of Claude Parent and Paul Virilio, as part of the Group Principe.

IV-2

Venice: "The Ramp" (2013), was part of the exhibition "Fundamentals-Elements of architecture", in which Rem Koolhaas paid tribute to "the oblique," by the partial reconstruction of the French pavillion at the Venice Biennale in 1970.

Interviews:

La Rochelle, Atlantic Coast, France: Interview with Paul Virilio (2005).

I managed to interview Paul Virilio in la Rochelle, and that the interview be published in the AA Files (2013[2008]), furthermore it is published for the first time in Spanish, in the Volume 2 of this thesis.

My meeting with Virilio in 2005 was an important moment for me. He welcomed us enthusiastically, and he even gave me a volume of his then unpublished book "Eglise Sainte Bernadette," and an original fascicle of "**Bunker Archeologie**," 1966

Years later, I was able to get together with John Armitage, the expert on Virilio, with more published books on Virilio. He very kindly received me in Winchester in 2006 for the interview.

Winchester, UK: Interview with John Armitage (2006). Unpublished, and published in Spanish in Volume 2 of this thesis.

IV-3

Stay of Research:

Geneve, Italy: Universita degli Studi di Genova, Scuola Politecnica, Corso di Dottorato in Architetture e Design (Spring, 2017)



IV-2_ArchiLab-FRAC Centre_Orleans-France_July 2003



IV-3_Interview with John Armitage_ Winchester-UK_June 2016



IV-4_Soggiorno di ricerca-Universita degli Studi di Genova-Scuola Politecnica-Corso di Dottorato in Architettura e Design Genoa_2017

Expert: Nicola V. Canessa, PhD Architect and Assistant Professor for DAD, Leading Member and Researcher of the GIC-Lab.

IV-4

Documentation records:

Since Virilio's written work is characterized by being repetitive, fragmented, labyrinthine; based on a collage of short words and concepts with prefixes that make his study be complex, it was necessary to organize (in chronological order) his publications and references, taking them to fields of study determined by binomials of interest, according to its most relevant content: Art and Society, Body and Motricity, Politics and Security, Territory and Habitability.

Nevers, Francia: Visité la iglesia de Sainete Benedetti en Neveras, 1963-1969. (2003)

Tras un viaje a Nevers, documentar la iglesia de Sainte Bernadette, la obra más importante producida por Claude Parent y Paul Virilio y su relación con lo oblicuo.

Visits to Claude Parent's and Paul Virilio's Buildings:

Nevers, France: I visited the Church of Sainte Benedette in Nevers, 2003 (1963-1969)

I travelled to Nevers, to document the Church of Sainte

Bernadette, the most important built work of Claude Parent and Paul Virilio, in relation to **the oblique**.

IV-5



IV-5_Sainte Bernadette Du Banlay-
Nevers-France_June 2003

Relevant buildings that influence the work of Virilio and Parent:

Berlin: Philharmonic-Hans Scharoun, 1963. (2001)

Communication:

Lectures, talks

Addressing lectures, talks conferences, and presentations, have allowed me to organize my ideas, explain Virilio's concepts to different audiences, communicate my analysis of his valuable arguments, and assess in a preliminary manner, my research and thesis work.

Barcelona:

- "**Oblique** Principle revisited-on-going research on P.V",
Calgary EVDS term abroad program
Fundacio Metroom, Octubre 26, 2011. Prof. Rafael Gómez Moriana.

- "Sainte Bernadette du Banlay, Paul Virilio and Claude Parent", Master for Projects and Society of Masses. Department of Architectural Projects ETSAB, UPC. December 10, 2014

Professors Eduard Bru Bistuer, Josep Maria Fort Mir, Xavier Llobet Ribeiro, Aquiles Gonzalez.

- "Research on Paul Virilio", Master Metropolis CCCB. July, 2015. Prof. Xavier Costa Guix.

- "Paul Virilio **Oblique**", Calgary EVDS architecture term abroad program, MOB, September 29th, 2016. Prof. Rafael Gomez Moriana.

- "Paul Virilio, **Ultracity**-the urbanization of technology", Master in City and Technology, IaaC, October, 2015. Prof. Areti Markopoulou.

- "On Paul Virilio" interview with Ricardo Devesa for Urban Next. 2018

Sant Cugat:

- "Paul Virilio, **Lo oblicuo** en la arquitectura", UPC-ETSAV_ Composicio IV. November, 2016. Profs. Josep Giner, Raúl Martínez, José Ángel Sanz Esquide.

- "Paul Virilio, La utopía de **lo oblicuo**", Cicle Cultural: Utopies i Realitats. ETSAV Cultura Col·lectiu RUSC 2017. [2]

Genova:

- "Paul Virilio, **Lo oblicuo** en la arquitectura, de Sainte Bernadette du Banlay, Nevers a la Ultraciudad", 2017. Prof. Manuel Gausa, Ph.D. Architect.

Interviews and dialogues

- "On Paul Virilio", trilogy on Virilio in an interview with Ricardo Dehesa, editing and filming Daniel Ruiz,

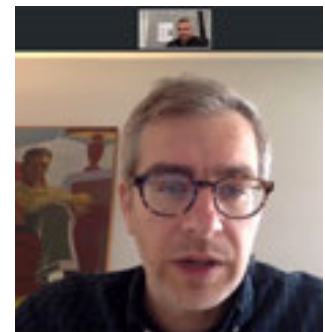
[1]The Metropolis Masters in Architecture and Urban Culture was created over twenty years ago by Ignasi de Solà-Morales, its founder and directing force, as a laboratory of research and production on the subject of the contemporary city. Its last edition was on Spring 2012.

[2] <https://upcommons.upc.edu/handle/2117/102949>

- urbanNext, 2018. "Space-Body relationship" [3]
-
- "Migration and Ecology and its impact on the urban environment" [4]
- "The impact of speed and technology in cities" [5]
- I attended the "The World as a museum of the catastrophe" course, given by Ivan de la Nuez, organized by the CCCB, 2020.

On-line

- Interview on Virilio with Joseph Hurtgen, PhD in English literature and editor for New Rural (N.R.) [6]. The interview was published in N.R. web page with the title "Pure Fear: A Discussion with Juan Carlos Sanchez Tappan on Paul Virilio and the Future, or, The **Ultra City** in the era of the Global Pandemic and Information Bombs", May 26th, 2020 [7]
- IV-6
- Present your thesis in four minutes contest, UIC-ESARQ Doctorate school, June 5th, 2020



IV-6_Interview with Joseph Hurtgen-New Rural_May 2020

Through a series of e-mails in 2015, I received valuable comments from experts in Virilio: James Der Derian, Steve Redhead (1952-2018), Sylvere Lotringer (2015), and in 2017, Neil Leach.

Own exhibitions

UPC-ETSAV, Sant Cugat del Valles, September 2018:
 As a result of Paul Virilio's 1st death anniversary remembrance, I promoted the exhibition: "Paul Virilio, requiescant in pace" jointly with the ETSAV library. His main publications that make emphasis on a phenomenological approximation to architecture, and with the reconception of the space and the city through speed and technology, were gathered from ETSAV and ETSAV UPC libraries. For the first time, Virilio's Atlas was exhibited as the result of the research work as a PhD candidate of ETSAV in 2018.

IV-7



IV-7_Paul Virilio-R.I.P._2019_09-23

[3] <https://urbannext.net/on-paul-virilio/>
 [4] <https://urbannext.net/migration-ecology/>
 [5] <https://urbannext.net/speed-technology/>
 [6] Sitio web dedicado para explorar la intersección de la cultura global y la vida rural
 [7] <http://newrural.org/welcome.html>

VI DISCUSSION

VI.1 The body and technology

According to Virilio, one of the most perceptible consequences of the irruption of new technologies of communications and speed, is the tendency to abolish time and space for having produced a general temporary dislocation-relocation (dislocare,) which implies. Which implies a change of vision, after all virtualization happens at the real time of actions. That is to say, a total dissociation or relocation in which there are no specific places, instead the emission and reception of sensations.

“We have reached speed limits, the capacity of ubiquity, instantaneity, and immediacy.” P.V. [1]

After the “Body art” of the 60’s and 70’s, the social and political protests of the 80’s and 90’s, artistic practices and critical discourses, recover the body as the central place of convergence. Towards the end of the 90s and the first decade of the 21st Century is when artistic practices in action, “performance”[2], “happening”[3], and the ritual as event, approach the relation between technology and the body. Orlan in the 90s, Stelarc in decade of 2000’s, Marcelli Antúnez, la Fura del Baus, and most recently, Neil Harbisson.

[1] Virilio, Paul; David, Catherine (s.f). Entrevista a Paul Virilio. Una conversación con Catherine David. DDOOSS. Num 3. de Acción Paralela. p.15

[2] Obra de arte o muestra artística creadas por el artista y participantes dentro del contexto de las bellas artes.

[3] Manifestación artística multidisciplinaria (música, teatro o artes plásticas) que se caracteriza por la participación espontánea o provocada del público. Toda experiencia que parte de.



VI.1_Oblique strategie_Ear on Arm_2008

In *The Art of the Motor* 1995 (1996[1993]), Virilio refers to Stelarc (Stelios Arcadiou, Australian performative artist) as being his main black technological beast, “*deus ex machina*,” who manifests the loss of the body and illustrates the fact that man has become useless; Stelarc allows and claims his body to be replaced by the machine.

During the interview with Catherine David, Virilio mentions his interest for Stelarc’s work: “He returns to a body that is being absorbed and destroyed by invading cells. He wants to become a non-body, a post-human body, beyond the body to replace man by the machine. He is the contemporary crucifixion of the human body by technology. He is the pre-robot Man, the apostle of the machine which will come behind him.” [4].

“What turns to be important, is not only merely the body identity, but its connectivity - not its location or mobility, but its interface.” [5]

VI.1

Despite the antagonist visions of Virilio and Stelarc: Virilio, in favor of the “God of transcendence,” and Stelarc’s devotion to “God machine.” Stelarc as Virilio concludes that the artists “cannot suppress the surveillance and military technologies-new technologies are more significant as catalysts that empower the artist’s work between biology and silicone circuits-chips.”

And, as Stelarc Virilio, insists that “the real artist” or “the true critic” must find new uses and new aesthetics; alternative possibilities to these technologies.

“A true artist never sleeps on new technologies, but deforms and transforms them.” [6]

Neil Harbisson, an avant-garde and activist artist, reveals this convergence. Considered as the first world official cybernetic organism (cyborg) by an antenna implanted in his head, that converts his black-white visual deficiency (achromatopsia) into a capacity to hear colors, also known as “synesthesia;” or as he himself defines, “sound-chromatopsia,”

[4] David, óp. Cit. p. 4-5

[5] Stelarc (s.f.). Ear on arm. Engineering internet organ, Recuperado en 15 de Marzo de 2017, de <http://stelarc.org/testForFlash.html>

[6] Zurbrugg, Nicholas (1999). Virilio, Stelarc and “Terminal” Technoculture. *Theory, Culture & Society*. P.188-189

What demonstrates how technology can be used “as a sense and not as a tool.”

VI.2

Resistance to technology

In the interview with Beatrice Simonot, Virilio affirms his interest in dance and theater, both as the two arts of resistance with focus in the body.

In his interview with Philippe Petite [7], Virilio’s argument is: “The essential characteristic of Man is his capacity to resist.”

Recovery of the body

In the interview with Virilio, Catherine David [8] questions whether strategies to resist technologies acceleration could be invented to maintain distances, depth, and heterogeneity of elements. Virilio answered that one possible solution lies in the temporality of today’s art, in its presence and location.

It is art not to be delivered at deferred time, but at a real time, life time; an improvised art, an art done at the moment, like jazz. And Virilio refers to some artists, such as Gary Hill, Bill Viola, Michael Snow, and Vasulka, who are working with the big question of the body and its virtualization, etc.

Beginning the 70s , the artistic praxis incorporates the use of videos as an opposition to commercial TV, in its different expressions: Video sculpture, video performance, and video installation. The representation of the body is very frequent.

Michael Snow in La Region Centrale (1971), a movie with a mountainous landscape, with a machine as frame for the camera, provides disrupting robotic movements for the film.

VI.3

Garry Hill, shows the irrelevance of human being.

VI.4



VI. 2_Neil Harbisson-cyborg since 2004
in BCN_2018



VI. 3_La Région Centrale-Michael
Snow_1971



VI. 4_Incidence of Catastrophe-Gary
Hill_1988

[7] Petite, P & Virilio, P (2004 [1996]). Ciber mundo, Política de lo peor. Madrid: Cátedra
[8] David, óp. Cit., p.14



VI. 5_Water-air-fire_Bill Viola_2014



VI. 6_Northing-Maciek Sado-Andrea Zavala_2016

Bill Viola takes the video as a communication form of the artist with himself.

VI.5

Maciek Sado and Andra Zavala take the oblique direction as a space and time filter to approach an augmented reality, the combination of virtual elements in a physical environment of the real world, for the creation of a mixed reality in real time.

VI.6

Before turning to the new millenium, Virilio anticipates that for this new Century, "it will be necessary to invent pleasures equivalent to a necessary comfort, but without 'burdening' the environment and the dependency of the body to the mechanization of the modern"

However, Virilio alerts on the threat of communication technologies, and proposes the following, as a preventive manner:

"To recover the tongue, talk together in order to get back to dialogue. Some activities must be recovered; I have neither a car, nor fax; I no longer watch TV and very rarely listen to the radio, which means that I am reading again. When one gives up reading and writing, one gives up talking as well; and therefore, gives up relating with others. The first way to love ourselves is the word." P.V. [9]

VI.2 Real and virtual space

For Virilio, the big problem is the temporal compression ("dromospheric pressure,") the standardization and synchronization as the two sides of space-time of contemporary architecture. During the interview with Lotringer [10], he illustrates that real time is a determinant element of power and demands architecture, the need and capacity for reacting before the demands of communication instantaneity, of the virtual portals, and of the "big data;" and serve the physical space ("real presence") as well as the virtual space ("spectral presence"). In Lotringer's opinión, this would mean, in architectural terms, that buildings would no longer be conceived as a succession of spaces, but in terms of a temporal compression. Demanding the architect to play the role of an orchestra director, which is and will be absolutely essential.

[9] Virilio, P; Philippe, P. (1998). Politics of the very worst. P.67

The architect is the one who should practice that balance between memory and progress, between culture and technology. Also they question how to take this role to today's architecture, and particularly to urban architecture during this globalization time.

VI.7



VI. 7_Aviad Almagor_2018

At the Packard plant (the historical automobile factory in Detroit), Greg Lynn explores the technologies of mixed reality in order to transform the architectural design process. Trimble's technology and Microsoft's holographic lenses render design a life making a bridge between the physical and the digital.

VI.8



VI. 8_Greg Lynn with Microsoft HoloLens at Venice Biennale_2016

"...and to the space dynamics provided by the body, we may add the changes in our relation of space that are being provided by new technologies of real-time. Thus, the telecommunication screens will further modify our relation with space." P.V. [11]

VI.8

VI.3 Architecture and city

In Future cities [12], John Rachman questions himself: "What can a critical architecture still do before the tendency of a city with connections more 'omnipolitan' than cosmopolitan"? That is, before the co-existence of the global business city together with the electronic city with an entertainment culture at real time?

Rem Koolhaas gives a categoric answer: "Nothing! The city of the future will be scrapped off the architecture as we know it, and we need to invent something like a post-architecture style of intervention." [13]

In that case, the resulting city still requires a logical program less similar to a diagrammatic section, like "OMA's," and more similar to an iPhone desk: At an architecture scale, interior or exterior spaces could be activated depending on the program in use; similar to a deconstruction that dislocates the architectural space integrating it to the virtual space. At urban scale, according to the program in

[10] Virilio, P; Sylvere, L. (2001). After Architectur - A conversation. Grey Room, Spring 03. P.43
 [11] Armitage, J. Virilio Live. 2001:62
 [12] Rachman, John. (1998) "Future cities". En Constructions. p:111
 [13] Rachman, Idem., p.111



VI.9_Glass-and-carbon-fibre-cell-Elytra-Filament for the V&A museum Pavilion, London, Archim Menges_2016

use, a whole section of a city interacting in different form, depending on the users or the function.

For Virilio, architecture is threatened to be dissolute by new technologies. "To a large degree, contemporary architecture is returning to the abstraction; an abstraction that, in most cases, does not go beyond merely formalism. Architects, for example, are working today more with machines than with people."

V.9

Body and architecture

Virilio had the impression that the body was not playing the role of the leader in the contemporary architecture. For Virilio, the other important pole of architecture today, is the relation with the body.

With the global city, the need to resolve the tension between the technological part and the cultural part, between the memory and the progress, shows up. A new harmony with the bodies and urbanization of real time.

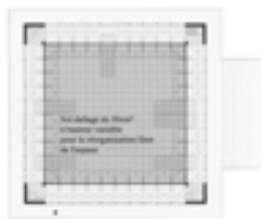
"Today, architecture is an exorbitant habitat. The inhabitant becomes the habitat. The instantaneous interaction with the body is a pre-figuration of architecture yet to come. Urban architecture and architecture itself will be built in a new body, an autonomous body, a body that is no longer the body of individualism" [14]

Housing

During his interview with Lotringer, Virilio affirms that housing and the city are his two poles of interest and to be considered as opposing scopes of extreme scales, and as tendency generators.

V.10

On one side, housing as facilitator from domesticity to formulate the exploration that could link virtual space with real space, and so reduce the virtual-real gap. Virilio's concentration is in housing, and his preoccupation is that architecture must "host" the virtual space within its specific specialty.

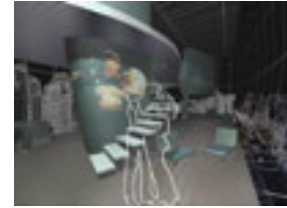


VI. 10_Exit house-Paul Virilio_Ultimo tema de proyectos de Virilio como profesor_1999

[14] Virilio, P; Lotringer, S. (2001). óp. Cit., p. 49-53

Virtual house, John Rajchman, 1998. [15]

A wired house (automated home), equipped to detect, serve, and protect the body ("disabled body";) or the screen house which promotes more the movement problem in general and, in particular, the least body link.



VI. 11_Urban glass house-Tschumi
Architects_2000

Urban glass house, Tschumi, 2000

As part of the first number of the millenium, "TIME" magazine asks Tschumi to design a house for the 21st Century. The project moves ahead "Facebook," providing a public facet to the private space. The house shows individuality to the user for what it happens inside, more than for its architecture; it is a proposal to live within and above the 21st century metropolis, where urban life is related to exhibitionism and forms of over-exposure. Its transparent surrounding and continuous digital walls make privacy be public, offering the Internet a counterpoint that privatizes public life.

V.11

"Tschumi's opinion is that architects must learn Virilio's lessons about the analysis of the city and of architecture; and to learn Virilio's method to think about clashes, massive media; public, political, and techno-cultural events in an architectural way." J.A. [16]

Body and City

From his participation in " Group Principe " and his urban proposals, Virilio's interest on the city is manifested as tendency.

"The city, because politics is urban nowadays. The city is the world, multiple local cities bounded to global cities by virtual space." P.V. [17]

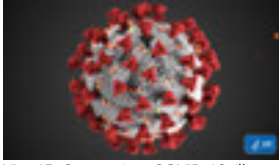
Urban models

In Hieroglyphs of space, 2002, Neil Leach approaches the city from two possible models: The semiologic model

[15] Rajchman, J. (1998). The virtual house. En Constructions. (115-121). MIT.

[16] Armitage, J. (2015). Virilio for architect, Routledge.

[17] Virilio; Lotringer., óp. Cit. p.42



VI. 17_Coronavirus-COVID-19_illustration-cdc-medical-illustrator-dan-higgins_2020

that grants privilege to the visual through “sign” reading, “signifiers” (architectural elements) and “meanings” (contents,) which can decipher its forms and understand its meaning.

And the phenomenological model that exalts the experience as our link with the world.

In conclusion: Both models should be interdependent; reading and experience should be mutually inclusive for the city understanding.

In *City* [19], Phil Hubbard, offers four approximations to the city, which could provide a base for a rejuvenated urban geography: The representativity of the city (the relation amongst city, power, and culture;) its infrastructures as an alternative to understanding its spatiality; the lived city and the daily usage of its urban tissues; the importance of mobility and technologies of flux in order to redefine urban spatiality.

“Cities have been slowly mobilized towards the contemporary megalopolis, a movement that we testify everywhere and in all directions.” P.V. [21]

Pandemic and ecological model

The Covid-19 crisis makes undeniable the complex links between the pandemic and the city, and tests the demand to cities to face the climate change.

V.17

Although the current pandemic will not have an impact on the city for long, it has accelerated tendencies, the technological adoption process in tele-activities as well as in solutions and devices for tracking and testing (artificial intelligence, mobile applications, fingerprint and facial recognition, etc.) It has catalyzed the digitalization of public services. It has made tele-work, on-line education, and tele-medicine to become a norm, which has revealed the existence of a big digital divide in both, opportunities to access the communication technologies and the ability to use them. It has increased the gap between real space and virtual space by redefining a new confined reality.



VI. 13_Humberto Beck sobre Ivan Illich_2017

[19] Hubbard, P. (2006), *City*. London: Routledge

[21] Armitage, J. Virilio, P. (2011). *Virilio Now*, Polity. p.3

Resistance to technology

The socio-economic challenges that the pandemic has brought up force us to re-think how we can harness technology, of the need of more sophisticated mechanisms for statistical analysis, the value of data, the democratic control of personal information, the impact of technology for the right to digital privacy, in order to move on to an increasing social and urban resilience.

Virilio already pointed out that those who are connected, are at home anywhere; while those who are not connected, are not home, nowhere. Although with the pandemic, those connected will turn out to be anywhere at home, but confined everywhere.

We count on a technology, which in a digital way, takes us to ubiquity, but our bodies are confined; we cannot yet have a physical contact with other people. Consider the two-meter interpersonal security distance in relation to the ubiquity of the screen. The COVID-19 has reminded us how we all are inter-connected with everything.

V.18

- Mixed reality in real time

There is the opportunity to re-think and re-design towards a digital urban life and an environment built with a major consideration before inequity, social inequality and the digital divide.

In regards to education - from kindergarten to university – the pandemic has highlighted the fast and efficient transition to on-line systems. Most probably is that the tendency of combining both, the on-line learning system and in presence system will prevail in the future.

V.19

In the “Over- exposed city,” Virilio’s argument is that the traditional city is over, in terms of security, walls, and gates to media protocols; and nowadays more sophisticated health security controls.

“The daily social and economic activities will be subject to following strict bio-security protocols” (Elkín Velásquez, UN-habitat Regional Director for Latin America and the Caribbean.)



VI. 18_COVID-19_2 meters social distancing



VI. 19_Food-market-social distancing_Shift architecture-urbanism_2020



VI. 20_Where we stand-social distancing-public spaces-Coronavirus_David Michon_2020

It will be required to maintain the density of people and their proximity in the space in order to promote solidarity and care; facilitate the provision of goods, food, access to necessary hygiene services, and a major access to the Internet; without risking the needed security distance, avoiding crowds in which case, the isolation for security.

V.20

It will be necessary to make the individual confinement compatible with proximity and collective compactness. A redefinition of the spaces, its design and architecture that could facilitate a new dynamic, which will govern with circuits and with the separation of persons. To adapt typologies of temporary lodging (hotels and touristic housing) in order to increase the capacity of isolation. Classrooms and playgrounds could establish a different type of school designed with natural light and ventilation.

V.21

Additionally, to re-think the model of property, include access to telecommunications amongst the basic services set up by law (drinking water, health, electricity, and access to the public street) so that a lot can be buildable. The size and distribution of houses should be re-thought to have a major adaptability, recovering multi-purpose and compartmental zones in order to tele-work, with bathrooms more aimed to health personal disinfection.

“More attention will be paid to interior and exterior spaces: (Balconies, halls, large windows, grandstands, scaffolds, etc.,) which have been forgotten for aesthetic reasons (the weight of modernism,) and for economic reasons (the weight of profit.)” Maria Buhigas, Confined in the City, Rock.)

Recovery of the body

The outbreak of COVI-19 has exposed both, the excesses as well as the deficiencies of the contemporary society, now that we have been forced to reduce speed and put our fast ways on hold. Perhaps, this crisis can teach us the need to maintain a balance between public and private space.

V.22



VI. 22_Huertos urbanos-Paris_Carlos Moreno_2020

The idea of the local is again revisited by the return of a new security and the return to the “territorial body” and the “proper body”. We must recognize the interdependence between country and city; we need a new urban/rural discourse and to defend the value of the built city (density, compactness) and of urbanism as a tool for a positive transformation.

The local, regional, and national governments have the opportunity and the responsibility to reform their strategy for displaying technology in urban life in the short and medium term.



VI. 23_VilleDuQuartDHeure-ciudad del cuarto de hora_Twit de Anne Hidalgo-alcaldesa de París_2020-01

-The 15-min. City,” Carlos Moreno (22)
v.23

The term is coined by Carlos Moreno. It is about a proposal for poli-centric, multi-centric city, whose economy, ecology, and society add value to proximity; a proposal to prioritize and meet basic functions (habitat, work, education, and leisure) within a 10-15 minute distance on foot or by bicycle; and to face mono-specialized focal points in the current city.

The city of proximity, which could count on the economical offer and the infrastructure to reduce emissions, decongestion, and optimize time to reinforce social cohesion. The mixture of residential neighborhoods with commercial areas; communities that share food, that produce preserved food again, domestic and community orchards, that use composts, etc.

VI.4 Criticism of Virilio

Ironically, Virilio’s book (Pure War,1984) by which he achieved notoriety in the Anglo-Saxon world, was not written by him. Sylvere Lotringer, philosopher and founder of Semiotext(e), edited it as an act of friendship, after a series of interviews with Virilio. About Virilio’s written work, it turns out to be complex for the reader to follow his arguments, which deconstruct in fragments amongst different publications. Moreover, the large spectrum of areas of knowledge that he approaches tangentially, and the variety of themes he touches - from war to cities and

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to technologies of communication- act as camouflage that disorients the perception of the development of Virilio's concepts.

Virilio described himself as an "urbanist." In life, he received critics from geographer Nigel Thrift about his ideas of the city; and from Alan Sokal and Jean Bricmont, for abusing scientific concepts wrongly cited and of terminology without sense (Intellectual impostures, 2003.)

The love of his life was architecture that, as an architect without licence, practiced next to his comrade in the Oblique and his brother in arms Claude Parent, for him, in the interview with Rem Koolhaas (Ramp), an irritating catholic. Virilio frequently said he was primarily Christian by the Incarnation doctrine, the valorisation of the body as temple of life and the promotion of the traditional Christian family value. Virilio saw the attributes of divine totality reflected in technology: Omniscience, omnipresence, and omnipotence. Technology, for Virilio is, essentially prosthetical, never an essential part of human identity, a criticism similar to the technology we find in Mary Shelley's work (Frankenstein) and in Fritz Lang's film (Metropolis.)

After his mentor Jaques Ellul's dead in 1994, the shortage of critics of technology early in the 21st. Century, made Virilio look as a pessimistic. Virilio defined himself, in many interviews, as realistic - not Luddite -, interested in making ring the alarm bells of the dangerous potential of technology, for him, a double edge arm.

Virilio, the hypermodern thinker who worked with concepts and artifacts of modernism, to whom I interviewed in la Rochelle in 2005, was not a moralist or positivist, but he was inclined to anarchism, to pacifism. His last projects were works with homeless groups in Paris.

VII CONCLUSIONS:

RESISTANCE TO TECHNOLOGY AND THE RECOVERY OF THE BODY.

The affectation of speed in the body and in space describe the impact of technology on our lives, and they form the spine of Virilio's phenomenological input to architecture and urbanism.

Virilio claims the urgency to return its importance to the body, by redesigning new social and spatial organizations; by rethinking architecture and the city. For Virilio, the large urban concentrations are the origin and destiny of the urban exodus, of world-scale migrations, of a continuing nomadism in which the body reappears. But, along with its growing densification in the form of vertical urbanizations with generic typology, they make emerge very tall buildings which sedentarize the body through the elevator as the most used vehicle. Virilio anticipates the need to reconcile the local physical city and the world virtual city, which tends to dissipate the body through communication networks.

Virilio challenges us, Architects, to rethink space which, from a **dromological** perspective, disappears before the immense speed of technologies and the gravity of time; to make the vision an architectural matter, more than making architecture a visual matter, separating the influence of self-referred and auto-generated images by the process of design; and demanding out of "the authorship of the

project” the capability of imagining, visualizing, walking thru, and living the project internally.

The theoretical terms of “**Dromology**” and “**Ultracity**” are fundamental to approach the transformations caused by the digital space. The city, being today unthinkable without the convergence of the digital networks, undoubtedly represents the social laboratory by antonomasia. Perhaps, a global society of isolated individuals, even being confined now, uncommunicated despite the virtual communication.

PV Paul Virilio (1932-2018)

Paul Virilio represents a key figure to understand the relationship between new technologies of information, communication (T.I.C), and transportation, with the territory. Its research, *Bunker Archeology*, of the **Bunker** and the Atlantic Wall, links up the impact of military technologies of the Second World War on the territory.

As a contributing artist with Matisse, Rouault; partner and critic at Claude Parent’s office, Virilio’s contribution brings together the post-war artistic discourse with his own architectural interpretation of Meleau Ponty’s the phenomenology. The **Oblique** Function, by the hand of Claude Parent, his seminal manifesto, resists and re-defines modernism architectural discourse, under the term “hyper-modernism” which is coined by John Armitage.

After the 1968 student movement in France, particularly in Paris, Virilio starts his academic career, which was extended for 30 years (1969-1999) at L’Ecole Superior d’Architecture and, as Visiting Professor at the European Graduate School, paves his prolific written work through which he studies the consequences of new technologies T.I.C., speed (dromology) and time, on space and the body. He coins the term “**dromology**” and with it, speed as a new field of study of architecture; the city; the body; and the society.

After leaving his academic activity at E.S.A., and after the 9/11 tragic events, Virilio dedicates himself near a decade,

to studying the accident and the city, as a visible form after the impact of speed and acceleration upon space and matter. He warns about the inherent consequences in technology, as a double-edged sword, pointing out to such relevant concepts as "the university of disaster," "city of panic," "grey ecology," "the futurism of the instant," in advance to "cities of beyond" and "The **ultracity**."

The **ultracity** is, for Virilio, the last reduct of resistance of space before the acceleration and speed of technologies T.I.C. Final bastion to recover the body from the immobility to which is subject by faster means of transportation, by the typologies of very high buildings, and of tele-activities that screens made possible and gained terrain during the pandemic. Of public space as in situ refuge for co-living and cultural exchange, before the virtuality, and trench in the battle field of the creation of sustainable spaces, and the generation of healthy environments.

Virilio's written work, as unlicensed architect, in some of his contributions with architects, such as Parent, Nouvel, Libeskind, etc., carry out the phenomenological philosophy in his criticism to architecture and urbanism. His fascination and resistance for technology, make him a contradictory prophet ahead of his time.

V.1 **Bunker**

For Virilio, war is his university, his personal direct experience of the Second World War (WWII) in Nantes, his hometown. Later on, his documentation of his exploration at the Atlantic Wall, confronts him to a radical different vision of the war model as the truly precursor of technological advances, economy and the city.

Documenting the different typologies of the **Bunker** along the Atlantic Coast as a student of Merleu Ponty, helped Virilio prove the principles of phenomenology on a variety of objects pertaining to the architecture WWII.

The confinement that a body experiences inside the **Bunker** contrasts with the protection given by its more than 66 cms-thick walls.

Virilio gets interested in the effects of perception and

orientation of the **Bunker** space; on the relation between the object and its environment; and on the marking and limitation performed in the territory.

Years later, Saint-Bernadette du Banlay (S-B.d.B), Nevers; built manifesto together with Parent, that shows his expertise in the use of concrete, Virilio would project his fascination for the **Bunker's** negative architecture, its resisting capacity before war technologies, the speed of missiles, and its independence from the ground.

The importance of S-B.d.B lies on the materialization of the convergence of Parent's discourse of the block's fracture as a result of his contribution with Block; with the phenomenology that Virilio develops in his research on the Atlantic Wall, and his extraordinary contribution for experimenting with different degrees of inclination in the ground and in the surfaces of the **Bunker** church.

S-B.d.B materializes during the 60's, the resistance of Virilio and Parent before modern architecture, the inflection of the oblique function in the architectural discourse of the 70's, 80's, and 90's; and continues being an important reference to those Architects who explore strategies to recover the body from the commoditization dragged by advance technologies, and to resolve the incorporation of the virtual into the experience of real space which we work with.

V.2 Oblique Principle

The **Oblique** Function was conceived in the 60s by Architectural Principe and continued being explored in the 70s by Claude Parent.

Its most recent influence in the last generations of architects, especially from the

90s, has mostly been formal, thanks to the possibilities of Design Assisted by computer (D.A.C.) and to the use of digital programs for representation.

Architects and designers borrowed the formal seduction of the inclined plane leaving behind, in many cases, its principles of affecting the body (resistance-potentiality);

the association between circulation and habitation (the activation of the ground), between form and structure (structural furniture).

The analogical world, the sketch, the physical model, the pencil and ink drawing (cones and radiograph), and the **oblique** experience in negotiating body positions to at the drawing table, were forgotten...

Many years had to go by for the anticipated concepts of the **Oblique** Function to be revived for experimentation. Homothetically to a higher scale are the proposals of architects who had sporadically contributed with A.P., such as Jean Nouvel, Daniel Libeskind, and Coop Himmelb(l)Au. There is also the dilemma between the legacy retrieved by large-scale architectures, like the Opera of Oslo by Snohetta (2007), the Yokohama Port Terminal (1995), by the Foreign Office Architects (FOA), the L'Ecole d'Architecture in Nantes, by Lacaton & Vassal, etc.

However, our future architectures and typologies, continue to be pending for the introduction of time into space; for searching the inhabitant's psycho-physical instability to be activated; for developing the "inclisite" potential in the urban scope; for the idea of the swinging suspension - how do gravity, lightness, and suspension can increase sensorial characteristic of tactility and motricity in the domestic rituals?. And about the vanishing of binomials as exterior-interior or circulation-inhabitation.

V.3 Dromology

Dromology condenses Virilio's concerns about the effects of speed and acceleration on space, architecture, and the city. The compression of time in each aspect of our contemporary daily life that disregards and even breaks up space

Technologies of information and communication-transmission (T.I.C.) have a deep impact on space. Speed and acceleration, characteristics of T.I.C's, made them ubiquitous, instantaneous, and synchronous taking away

relevance from physical space, becoming only visible as continent of the accident. Thus, the occupation of space by speed and the irrelevance of space before time - without time, there is no space, make Virilio raise his hopes on the public space of the city - without space, there is no body, as the last front of resistance before the advance of the urbanization of technology and the endocolonization of the body.

There is a big disconnection between the actual digital design methodologies used to conceive architectural environments, but turn out to contrast to what they finally are experienced physically, once built.

What will architecture become with the advent of spaces defined by technologies of communication instead of construction techniques?. With what sense something can be built when interfaces replace surfaces, and instantaneity reduces space to nothing?

V.4 Ultracity

The term "**ultracity**" summarises Virilio's concerns and criticism on his work related to space-time, to speed and the urban realm, and to the relation amongst cities and technologies of information and communication.

The **Ultracity** concept allows us to understand how the mobilization, widely generalized, has suffered metamorphosis through accelerated or motorized temporalities. Large contemporary cities, with their nomad and multi-ethnic populations, guideline now the economic rhythms, the security strategies, and the investment flows.

Virilio changes his belief from architecture to the city, as the social laboratory for antonomasia, and as the last realm in which the political currents, the changes in social psychology, and the cultural mutations of any type, may be noted. Although perhaps, also as receptacle of micro-societies of local rootings, driving force of reactionary movements; of a global society of isolated and uncommunicated individuals

- despite the virtual communication –thru nets that melt in here and now.

In "The Overexposed City" we find one of the most influential narratives about the real/virtual Space divide – limits and differences. "The urbanization of real space" gives pace to the "urbanization in real time." While real space privileges the continuity of living experience and physical spatiality, virtual space privileges the discontinuity of living experience and physical specialty, and the rupture on time interruption. It remains in us, architects and urbanists, following B.B. Mandelbrot's example, whose thinking belongs to neither the real space field nor to the virtual space, but has important affinities with both, to solve the real space/virtual space divide, incorporating into our design and construction process new technologies of notation; authorship techniques for the projection of mental images that coexist with design projects assisted by computers; mixing strategies of use and programs reinforced by augmented reality; the association amongst form, structure, program, and virtualization; construction codes and ecological healthy planning that incorporate the Internet of things.

The **ultra city** is characterized by two contradictory phenomena conformed by: For one part, an increasing sedentarism provoked by the new doors and windows of the technological interfaces and the application of domotics. Spectating citizens adrift in the here and now in migration to nowhere. As a consequence, there is almost no need to activate our body in the contemporary panorama of our urban environment, defined by corporate spaces and over congested territories.

For the other part, an increasing nomadism, defined by uncontrolled migration flows to cities that provoke an increasing babelization, an uncontrollable demographic concentration, and an excessive technological and energetic dependence. We are experiencing, at a worldwide level, an exodus of millions of people moving due to affectations caused by natural and artificial accidents, war, and an unbalanced distribution of resources.

However, it is that the interurban migration flows, the multimodal intraurban transfers, reinforced by the increasing ecological awareness together with the imperative need (Covid-19) to provide the city and the architectures with healthy environments, all are of those that can still present resistance to technology and recover the body.

VI DISCUSSION

Virilio's preoccupation, since his first stages as "war baby" to today, recognized worldwide as a critic of speed, were related for one part, with a constructive, destructive and transforming force of "technology" in the body, architecture, and the city. In the one hand, the temporal compression, the standardization, and the synchronization, and in the other, the relation with the blocked and excluded "body" by globalization as a second front of struggle in architectural scale as well as at the urban scale are the two sides of space-time of contemporary architecture.

Virilio's workforce is in the fundamental role that technology plays in forming our individual and collective experience. Much of what is interesting and attractive about his work, is his belief that today we live a perception crises, precipitated by visual technologies of militarization and the incorporation of these technologies in the familiar environment on streets, homes, and in the daily living architecture. It is also a crises of the solid geometry of buildings as they give pace to the transparency and media fluidity.

Since the 60s, the impact of technology, which accelerates the communications and transmissions, Has been critical for spatial and social organizations, affecting the role of the body and questioning the importance of the physic space. Today is even more notorious for the effects of the Internet and the mobile phone industries, that generate a world dominated by the instantaneity, the ubiquity, and the omnipresence.

Apple, with the invention of the iPad, the iPhone, etc.,

has abducted the user ("techno-self") putting him aside to a privacy with himself, like techno-addicted to the total screen. Under such conditions, the "dis-individual" is absolutely exposed to the screen's abyss, leaving his incorporation outside of the social mediation. The above explains the obsession for the selfie, in which we become techno narcissus, surviving by auto-identification.

Virilio's thinking went way ahead of the development of the events in his time. Before the shift of the millennia, in relation with space, he anticipated matters of tele-presence against presence; of tele portation against presentation, highly relevant for the dominating tendencies for our times, as the virtual reality and the augmented reality.

"It will be necessary to invent pleasures equivalent to a necessary comfort, but without those mortgages on the environment and the the dependence of the body on the modern mechanization.

On the body, Virilio advises about the menace of technologies of information and proposes in a preventive way: "You recover the tongue, chat together in order to go back to dialogue; certain activities must be recovered, I don't have a car, nor a fax, I watch TV no more, and I almost do not listen to the radio. So that means I am reading again. When one deprives oneself from reading and writing, one deprives oneself from the word and so from others. The first manner to love each other is the word." *P.V.*

VIII.3 Selection of written works

From the book *Lost Dimension*, the most relevant chapters for this thesis were: "The Overexposed City" ("La ciudad sobre expuesta"); and "Improbable Architecture." ("Arquitectura Improbable")

From the book *Virilio for Architects* (2015) by Routledge, the chapter: "The **Ultracity**", 2010, which Armitage redefined as "Cities of light" or "Cities of the beyond", was of crucial importance for this thesis.

My selection of writings includes important essays, such as 'The Big Night', 2000; 'The Unknown Quantity', 2003; and 'Tabula Rasa', 2005; all conformed by his preoccupation on the continuous transformation of the accident, the large migration movements, and the analysis of the urban stasis, and the urban escapism.

For the selection of written Works, first I followed Virilio's critical writings according with other publications Particularly helpful for this first source were:

Der Derian, James (1998) . *The Virilio Reader*, Wiley Blackwell Readers,
Redhead, Steve (2004) *The Paul Virilio Reader*. Columbia University Press.

A second selection criteria were texts that are considered relevant by John Armitage in *Virilio for Architects*:

"The Big Night", 2000; 'The Unknown Quantity', 2003; "Tabula Rasa", 2005; and "The **Ultracity**", as Virilio describes the meaning of the vertical "**ultracity**", of "cities of light" and the great mobilizations of migrants. Four of the most influential essays were written by Virilio during the 90's and 00's- "The Big Night", 2000; "The Unknown Quantity", 2003; "Tabula Rasa", 2005; and "The Ultracity", 2010, were shaped by Virilio's continuous preoccupations about the transformative potential of the "accident", the analysis of the "stais" or urban scape, of what Armitage refers as "cities of light", and an examination of "anti-ecology" and escapism strategies to the **ultracity**.

Finally, the third and most important criteria was cataloguing those publications specifically related with the critical concepts that this thesis retrieves, developed in the following diagrams:

"The Overexposed City", 'Improbable Architecture'

1996: Philippe Petit and Virgilio, "Cybermonde, la politique du pire": Entretien avec Philippe Petit. Textuel, Paris, December 1.

VIII BIBLIOGRAPHY

As a support to the thesis trunk, and in order to guide the reader throughout the complex, vast, and labyrinthine work of Virilio and on Virilio, I consider essential to organize by references the critical mass of the written Virilian cosmogony.

VIII.1 Selected bibliography; cartography of his written work

To follow, acquire, and/or reproduce publications of Virilio and about Virilio has been for me a continuous task since year 2003, and a somehow large investment, which has enabled me to map his vast written work. VIII-1

Virilio's writing functions stylistically the same way that Braque's paintings function: A recollection of pieces of reality, reassembled in a provocative manner.

His ample and vast written work makes it necessary to develop mechanisms in order to disaggregate the repetitive way of his writing, and mend the fragments of ideas which appear in each one of his publications; and in sum, that generate a constantly evolving discourse.

Primary sources:

The great majority of his French publications were edited by Stock, Galilée, Polity, Cahiers du cinema, Textuel, Entretiens; in English by Semioxtex(e), Zone Books, MIT press, Continuum, Bloomsbury Academic, Verso, Sage, U. of Minnesota press, Radical Thinkers, Thames and Hudson,



VIII-1_Virilio-personal library 2015



VIII-2_Primary sources

Berg; and in Spanish by La Marca, Cátedra, Anagrama, Manantial, Paidós, Dolmen, Fondo de Cultura Económica, Libros del Zorzal, Capital Intellect, Amorrortu.

A few have been translated directly to German, Italian, or Portuguese. VIII-2

During my interview with Armitage in 2016, I agreed with him that the best book on architecture, written by Virilio (not translated to Spanish yet) was: *Lost Dimension*, 1991 (*L'espace Critique*, 1984.) And also, the best book, as a written work, for both of us is undoubtedly: *War and Cinema*, 1989 (*Guerre et Cinéma*, 1984.)

Additionally, I highlight that Virilio proves, in the following written works, how the speed of light of the mass media and technology have colonized time and earth space:

La Bombe informatique, 1998 (*The information Bomb* [*La Bomba Informática*, 1999]); *Ce Qui Arrive*, 2002 (Unknown Quantity, 2003); *L'Accident originel*, 2005 (*The Original Accident*, 2009[*El Accidente original*, 2010])[49]; and *L'Université du désastre*, 2007 (*The University of Disaster*, 2009).

His last books, amongst them: *L'Université du désastre*, 2007 (*The University of Disaster*, 2009); *Le Grand Accélérateur*, 2010 (*The Great Accelerator*, 2012), already denote the decomposition of his written work, as a consequence of his old age.

His last book is in an interview with Jean-Louis Violeau: *Le littoral, la dernière frontière*, 2013 [50]

Secondaries:

The first book published by other experts, which makes reference to Paul Virilio and Claude Parent, was published by the Architectural Association in 1996, and translated by Pamela Johnston:

The Function of the Oblique. The Architecture of Claude Parent and Paul Virilio 1963-1969

Irene Scalbert and Mohsen Mostafavi interview Claude Parent and publish a text of Paul Virilio written for this volume: "Architecture Principe."

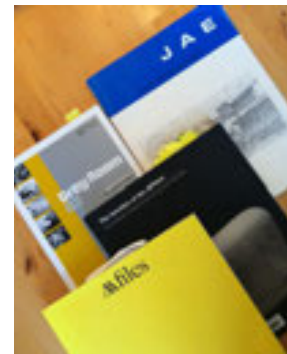
Since then, twelve monographies on Virilio, and eleven books based on his written work or make reference to, have been published by authors such as Christopher Joly, Mark Lacy, Ian James, Sylvere Lotringer, etc. However, none of these have been translated into Spanish. VIII.3



VIII.3.Secondary sources-monographies

The joint work of Virilio and Parent has been published in various Spanish magazines such as: Nueva Forma, Quaderns, Croquis, 2G Nexus; and countless foreign magazines, of which the most relevant are: Architectural Design, Theory, Culture and Society, Journal of Architectural Education, Gray Room, Cultural Politics, Topia, AA Files, LOG, Open, DDOOSS, etc. VIII.4

Virilio approach to media of greater interdisciplinary scope is notorious on means like "Esprit, Cause Commune, y Traverse", or in other monthly magazines and journals like "L'Autre Journal Critique," or "Les Temps Modernes," in which his architectural ideas and philosophical projects could be read by people interested in human studies, science, and arts



VIII.4.Secondary source-periodicals

Unlike the work of other architectural thinkers, who move around almost exclusively in the academic community, Virilio's editorial work is interesting to a major audience. In fact, his ideas have been disseminated in DVD: "Penser la Vitesse" (2009); in television: "Virilio and Kittler" (2001); and in some newspapers of western Europe: La Liberation, Die Tageszeitung; and by distinguished publishing houses, such as Princeton.

Virilio's influence in architecture and in other various fields have been extended to other disciplines and countries. His works have continuously been re-edited and translated into 15 languages.