

TARGETING THEORY: CRITICALITY AND THE CITY

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Thesis Summary

In recent decades, the definition of architecture has broadened into a more flexible and discursive notion of ‘design’, extending the scope of architecture beyond its traditional boundaries. To some extent, this change can be attributed to the impact of network technologies such as digital computing and info-communications technology which has led to the emergence of computer-generated design as well as new network-centric business practices that conform to the competition of the post-capitalist knowledge economy.

This shift in the discipline of architecture corresponds to the emergence of a specific trajectory in the field of architectural theory, ‘post-critical architecture’. Refuting the criticality of Critical Architecture which emphasized the importance of critique and resistance, post-critical architecture promotes a flexible projective stance which is more performative instead of reflective. In this thesis, I compare post-critical architecture with the use of architectural/critical theory by the Operational Theory Research Institute (OTRI) in the urban warfare doctrine of the Israeli Defense Forces (IDF) as articulations of contemporary architecture as ‘design’. By examining architecture through the militaristic lens of network-centric warfare as well as the notion of the ‘city-as-target’, I expose the militaristic character of architecture and the network as the logic of targeting to account for these developments in architecture.

In Chapter One, I outline the grounds of this crisis in architectural theory as the challenge of the network with a discussion of post-critical architecture and the work of the OTRI, with respect to the context of the network-informational city. I demonstrate how the network can be regarded as an extension of architecture by emphasizing the transitivity inherent in architecture which is found in the network as well. I also draw connections between architecture and knowledge which account for the discursive nature of architecture, as well as the architectural character of knowledge.

In Chapter Two, I draw further connections between architecture and knowledge by showing how they converge with the military in the militaristic logic of targeting, as well as the notion of the boundary/limit which functions as the target to be instituted or eradicated. I demonstrate how targeting constitutes the basis of scientific and military thought, and explain how the transitivity of targeting and the existence of the boundary/limit give rise to two modes of criticality: projective critical thinking and reflective critique.

In Chapter Three, I explain how knowledge is produced from the contesting dynamic of both the modes of critical thinking and critique, and demonstrate how this dynamic drives the development of the target in various aspects related to urban life which leads to the emergence of the network. By examining the implications of post-critical architecture as well as the work of the OTRI, I raise a problem of criticality related to the execution of projective critical thinking which eradicates existing boundaries/limits and imposes invisible boundaries/limits in their place. I also highlight the ideological/socio-political repercussions which extend to other aspects of knowledge production and the urban experience.

List of Abbreviations of Works Cited

Books Cited

- AEG* *Architecture, Ethics and Globalization* edited by Graham Owen
- ATP* *A Thousand Plateaus : Capitalism and Schizophrenia* by Gilles Deleuze and Félix Guattari
- CTW* *Cities, War and Terrorism : Towards an Urban Geopolitics* edited by Stephen Graham
- EST* *Ethics : Subjectivity and Truth* by Michael Foucault
- HL* *Hollow Land: Israel's Architecture of Occupation* by Eyal Weizman
- IPOME* *In Pursuit of Military Excellence : The Evolution of Operational Theory* by Shimon Naveh.
- MAACMT* *Modernist Avant-Garde Aesthetics and Contemporary Military Technology: Technicities of Perception* by Ryan Bishop and John Phillips.
- P/K* *Power/Knowledge: Selected Interviews and Other Writings, 1972 – 1977.* By Michel Foucault.
- QCT* *The Question Concerning Technology and Other Essays* by Martin Heidegger.
- Swarming* *Swarming and The Future of Conflict* by John Arquilla and David Ronfeldt
- TANAF* *Theorizing A New Agenda For Architecture: An Anthology of Architecture Theory 1965 – 1995* edited by Kate Nesbitt.
- TAW* *Technology and War : From 2000 B.C. to the Present* by Martin van Creveld.
- TUAMCCFM* *The US Army/ Marine Corps Counterinsurgency Field Manual.*

Articles Cited

- “ATMAQA” “Architecture Theory, Media, and the Question of Audience” by K Michael Hays
- “BDT” “Building Dwelling Thinking” by Martin Heidegger.
- “BTSATS” “Between the Striated and the Smooth” by Shimon Naveh

“CUG”	“Introduction to a Critique of Urban Geography” by Guy Debord
“Détournement”	“Détournement as Negation and Prelude” by Guy Debord
“DI”	“Interview Series: Design Intelligence. Part I: Introduction” by Michael Speaks
“DIATNE”	“Design Intelligence and the New Economy” by Michael Speaks
“IAP”	“Intellectuals and Power” by Michel Foucault and Gilles Deleuze
“LT”	“Lethal Theory” by Eyal Weizman
“NATDE”	“Notes around the Doppler Effect and Other Moods of Modernism” by Robert Somol and Sarah Whiting
“OHTP”	“Okay, Here’s the Plan...” by Robert Somol and Sarah Whiting
“POSC”	“Postscript on the Societies of Control” by Gilles Deleuze.
“TFTAG”	“Tales from The Avant-Garde: How the New Economy is Transforming Theory and Practice” by Michael Speaks
“TVOHCTAE”	“ ‘The Vertical Order Has Come To An End’ : The Insignia of The Military C ³ I and Urbanism in Global Networks” by Ryan Bishop

Introduction

“War is the province of uncertainty: three-fourths of those things upon which action in War must be calculated, are hidden more or less in the clouds of great uncertainty. Here, then, above all a fine and penetrating mind is called for, to search out the truth by the tact of its judgment.” -- Carl von Clausewitz, *On War*

“But man governs his feelings by his reason; he keeps his feelings and instincts in check, subordinating them to the aim he has in view. He rules the brute creation by his intelligence. His intelligence formulates laws which are the product of experience. His experience is born of work; man works in order that he may not perish. In order that production may be possible, a line of conduct is essential, the laws of experience must be obeyed. Man must consider the result in advance.” -- Le Corbusier, *The City of Tomorrow and Its Planning*

“A crisis in architectural education is brewing,” declares Tim Love, an architect and an associate professor, in the essay “Between Mission Statement and Parametric Model” for *The Design Observer*. He cites a “contentious divide” between those who advocate “speculative parametric modeling,” and those who emphasize “social relevance and environmental stewardship” in contemporary architecture schools. The crux of this crisis is not just found in the conflict between these approaches; it is grounded in their individual shortcomings. Those who embrace digital modeling tools and techniques fail to consider factors of context in their designs, while those who design for ecological sustainability lack the disciplinary rigour, as well as the technical expertise of other fields to create actual projects which would serve their ambitions. These problems encountered in the training of future architects reflect the changing practices of architecture, which now comprise the utilization of sophisticated network technologies in the construction of design. They also reflect the changing identity of architecture; the discipline now based upon the broader and more flexible notion of ‘design’, which seems to be more concerned with

the communication of discourse, information and image, than the realities of construction and its practical effects.

These changes in architecture are most clearly articulated in the field of architectural theory, where a corollary crisis pertaining to the future of architecture, its role and its significance unfolds. Attempts have been made to redefine the state of contemporary architecture, with academics and theorists challenging the criticality and resistance of Critical Architecture, the architectural movement that dominated the few decades before the 1990s. The term 'post-critical architecture' has now been incorporated into architectural discourse, marking an end to the valorization of theory in this field. However, the acceptance of the term (along with Love's observations) raises a question as to whether architecture can and should remain critical, especially with regard to the ideological and socio-political concerns of the context it is situated in. This question is asked with a degree of urgency, especially in the unprecedented case of the use of architectural/critical theory by the Operational Theory Research Institute (OTRI) in the military doctrine of the Israeli Defense Forces (IDF), which falls within a larger context of a movement of military research institutes adopting knowledge from various academic disciplines to engage in urban warfare. While it is clearly contestable whether the OTRI's use of architectural/critical theory is architectural, the emergence of the OTRI's work provokes reflection on what makes such an appropriation of architectural/critical theory possible in the field of military science. The OTRI's use of architectural/critical theory in the formulation of network-centric urban warfare manoeuvres interrogates the current definition and meaning of architecture, especially in the context of the network. What does such use of

architectural/critical theory imply of notions such as interdisciplinarity, flexible disciplinarity, and design?

This thesis examines the discourse of post-critical architecture and the work of the OTRI as articulations which reflect this crisis of architectural theory -- a crisis which has been brought about by the impact of the network. Architecture, due to the assimilation of visual media and info-communication network technology, has become increasingly defined in terms of knowledge and information, inscribing a greater flexibility to the discipline in the notion of 'design.' This disciplinary flexibility is perceived as an advantage with regard to the risk-driven knowledge economy of the network city, as it enables the discipline to remain relevant in an environment of competition and uncertainty. However, under the influence of the network, this definitional expansion also translates into the erosion of traditional disciplinary boundaries of architecture as architectural knowledge becomes utilized in more varied contexts for different purposes, a development some have observed with concern. The notion of 'design' has been extended to the framework instituted by the OTRI that appropriates architectural/critical theory to conduct network-centric urban warfare operations, as the urban space -- in particular, the city -- is also rendered as a target of netwar: conflicts which are usually fought by decentralized organizations that include asymmetrical urban wars of terrorist activity. Under this network-related notion of design, urban warfare has now been conceived as a problem of architecture.

Post-critical architectural discourse and the OTRI's use of architectural/critical theory in urban warfare strategy are articulations of architecture which are also metonyms of the tensions between the notions of architecture and the network.

Through common rhetorical strategies supplemented by the actual use of physical technologies, post-critical architecture discourse and the OTRI's use of architectural/critical theory demonstrate in discursive and operational terms how the definitional boundaries/limits of both architecture and the network undergo constant eradication and modification. They are extreme but related cases of a delimited engagement with theory in architecture that denies theory its self-reflexive quality.

In this thesis, I demonstrate how post-critical architectural theory and the OTRI's use of architectural/critical theory are examples of a projective operational logic that I term 'critical thinking'. Critical thinking, as embodied in the discourse of post-critical architecture and the urban warfare discourse of the OTRI, is a mode of thought which seeks to achieve or attain a goal, and is operationalised by the establishment or the eradication of the boundary or the limit. It is a militarised mode of thought under the notion of targeting which runs counter to the notion of reflective critique in what is more commonly recognised as critical theory in academic circles. Embodied in respective criticisms of post-critical architecture and work of the OTRI is the notion of 'reflective critique', a reflective mode of thought that identifies the boundaries or limits under which a phenomenon emerges, especially socio-political ones.

Both the modes of critical thinking and reflective critique are contrary but complementary modes of thought which constitute the logic of targeting. While the examples of post-critical architecture discourse and the OTRI's use of architectural/critical theory suggest that the application of critical thinking generates the notion of the network in discourse, I assert that this notion of the network is

sustained and perpetuated through oppositional contestation between the modes of critical thinking and reflective critique instead. The notions of interdisciplinarity or flexible disciplinarity behind the notion of design promoted by both post-critical architectural theorists and the military theorists of the OTRI entail the establishment of new disciplinary boundaries/limits upon the selective eradication of existing ones in the application of critical thinking that provides an impression of all-encompassing applicability. However, as these new boundaries become instituted and others become removed, there is often a failure to consider the socio-political implications of these interventions. Hence, there is a need for reflective critique to identify these implications as a form of resistance and to defend disciplinary boundaries/limits if necessary.

By seeking to describe the underlying logic of targeting behind the emergence of these articulations of architecture under the categorical definition of design, this thesis aims to explicate the ontological nature of reality produced by – and engaged in – the discursive forms and manifest technologies of design, the mechanisms of the network and the network-informational city. As these tensions are, in turn, symptoms of a greater crisis in the production and application of disciplinary knowledge, this thesis also raises the political implications of the prevalence of the logic of targeting.

Post-critical Architecture and Urban Warfare: Targeting as Design

In recent years, architectural practices have changed due to the impact of increasing digitalization and incorporation of the media. It is now common for the architect to use CAD (computer-aided design) tools. Advances in computing technology have

also paved the way for ‘emergent’ or ‘auto-generative’ design which produces evolutionary models within predetermined algorithmically-based limits. Network technologies also affect architecture as the context of its production, with information and transportation networks functioning as the infrastructural basis of the knowledge economy. The knowledge economy inevitably influences architectural practices, since architecture is also a commercial enterprise and is subjected to market forces. Network technologies are also extensively used in almost every aspect of urban life, especially wireless computing, which allows the urban dweller access to information at any given moment or location.

As such, architectural practices have to adapt to these changing circumstances to remain relevant, which might explain why there have been growing diversity and multiplicity in architectural representation. Emre Altürk observes that there has been a structural transformation in architectural discourse due to developments in representational technologies, such that “architectural representation [has] begun to engage directly and critically with architectural discourse itself” (133). This also corresponds to theorist K Michael Hays’ comment that “[a]rchitecture should no longer be understood as an object but rather as a condition and construction” (*Manifold* 89). These varied representations have traversed traditional disciplinary boundaries and adopted a more universally applicable form: design. This has understandably led to anxieties over the centrality of architecture’s role in shaping the material – and immaterial -- environment of the city, and its ability to cope with the challenges of the networked environment.

One response to this disciplinary anxiety is post-critical architecture, a trend which seems to affirm the influence of the network upon architecture. It broadly attempts to reject the notion of criticality in Critical Architecture by trying to introduce a more flexible definition to the discipline. Although the scope of the term is not fixed, its various articulations reflect a common projective stance that has led to the assimilation of the term into contemporary architectural discourse.¹ By lauding the American architect who “go[es] directly to the goal” over the “theory [and] hesitation” of European architecture which is more familiar with critique and resistance (Koolhaas qtd. in *AEG* 153), the arguments of post-critical architecture promote a discipline that is “anticipatory, rather than hermeneutic” and “less concerned with what architecture is, or what it means, and more with what it can do...what effects it can set in motion, regardless of their origin” (Allen et al. 104). I have based my definition of post-critical architecture in this thesis upon the writing of architectural theorist-academics Robert Somol and Sarah Whiting, whose essay, “Notes around the Doppler Effect and other Moods of Modernism,” has been identified as a landmark of post-critical discourse. I also refer to several essays from architectural theorist-academic Michael Speaks, who advocates discarding architectural theory as the intellectual basis of architectural practice and replacing it with business management theory. Inspired by discourse on the War on Terror and in particular, the notion of Open Source Intelligence (OSINT), an approach used by the CIA to combat terrorism, he also proposes the notion of “design intelligence,” the adoption of information and theories that would allow architectural practices to innovatively adapt to any circumstance, especially in climates of uncertainty (*DI* 16).

¹ Accounts of the emergence of post-criticality can be found in George Baird’s article “‘Criticality’ and Its Discontents,” *Architecture, Ethics and Globalization*, as well as Ashley Schafer and Amanda Reeser’s editorial in *PRAXIS 5*. The multiple articulations of the term which have emerged do not reflect definitions that comply exactly with each other; in fact, they might contradict each other on various aspects. It is this multiplicity of definition which is part of the crisis of knowledge production.

The Operational Theory Research Institute's use of architectural/critical theory to design operational network-centric military manoeuvres in urban spaces reflects a similar attitude of embracing disciplinary flexibility in a context conversely opposite to Speaks': while the architectural theorist suggests that business and military strategy should be applied in the realm of civilian architectural practices, the OTRI, a military institution, utilizes architectural/critical theory as the intellectual basis of urban warfare methods to battle terrorists under the paradigm of Systemic Operational Design (SOD), an operational framework for the planning of warfare inspired by systems thinking that is centred on the notion of the aim (*IPOME* 14).

As described in Israeli architect-academic Eyal Weizman's essay "Lethal Theory" and book, *Hollow Land*, the OTRI was an institute of the IDF founded in the 1990s which was responsible for the creation and application of military Operational Theory. Led by Brigadier-General Shimon Naveh during its operational years, the OTRI eschewed the traditional IDF approach of pragmatic improvisation for the intellectual methodology of *conceptualization* (Adamsky 102),² with its officers mobilizing the work of theorists such as Deleuze and Guattari, Guy Debord, Bernard Tschumi and Christopher Alexander in the IDF's military doctrine under the term "critical theory", alongside texts from various disciplinary areas such as urbanism, psychology and cybernetics. Employing an approach of critical thinking to warfare, the OTRI called themselves 'operational architects' and approached urban warfare as a problem of space. Engaged in network-centric warfare known as swarming, they created military manoeuvres such as "walking through walls" by adopting Deleuze and Guattari's notions of "smooth" and "striated" space. This meant breaking holes

² Conceptualisation is the "develop[ment] of an invented language to explain observed phenomena in the given context" (102).

into the walls and ceilings of civilian homes in the refugee camps of Nablus and Balata in order to move through the buildings to hunt for targeted Palestinian insurgents.

Although the OTRI's use of architectural/critical theory for urban warfare purposes comes across as an anomalous case of military warfare -- especially given the fact that the institution was disbanded in 2006 -- the OTRI's existence had considerable impact on the Israeli military and could be regarded as part of Israeli military developments which accord with the current Revolution in Military Affairs (RMA),³ a theory of military transformation that proposes a reorganization of the military and its strategy in alignment with integrated systems of info-communications technology and weaponry. While there have been debates on whether the current trajectory of military development bears enough transformative potential to constitute an actual revolution,⁴ the term RMA has been widely adopted by military forces worldwide. The term has been used to describe discussions pertaining to Network-Centric Warfare (NCW), effects-based operations (EBO) and Systemic Operational Design (SOD), conceptual frameworks that are broadly based on information processing, precision weaponry and joint-service operations, with an emphasis on networking between the different aspects of the military organization (Loo 2 - 3).

³ Widespread discussion on the RMA emerged in international military circles in the 1990s, especially after the 1990 Gulf War, although the intellectual foundations of RMA can be traced back to the work of Soviet military theorists in the 1970s. For a discussion on the RMA and a comparative study on how it has been carried out in Russia, the US and Israel, please refer to Dima Adamsky's *The Culture of Military Innovation*.

⁴ Gongora and von Riekhoff provide a summary of these arguments in the introduction of their book *Towards a Revolution in Military Affairs*. One of the key issues debated in the book is the definition of information forming the basis of the RMA, and the extent the term information can be used to describe the systemic foundations and innovations of the contemporary military (4).

While some have regarded Naveh's ideas as ultimately erroneous due to the confusion they had generated on and off the battlefield in 2006 (Adamsky 108 – 109),⁵ his work had previously been accepted in military theoretical circles.⁶ The IDF's guerilla warfare operation in 2002 stands out as a notable case for developments in the area of counterinsurgency (COIN) operations, an area that was becoming a key concern of national security in the wake of the events of September 11 2001. In recent years, the global community has increasingly encountered the threat of terrorist organizations in network-centric asymmetrical conflicts fought in dense urban centres, and it was within this larger context of global insurgency under the War on Terror that the OTRI's particular contribution to Israeli urban warfare operations against Palestinian insurgents served as a possible precursor to future global military developments. In this thesis, the theory and practices of the OTRI are considered alongside the US military doctrine of Systemic Operational Design;⁷ the principles of operational theory are primarily iterated in Naveh's survey of military Operational Theory *In Pursuit of Military Excellence*, his essay "Between the Striated and the Straight", as well as the U.S. Army/Marine Corps Counterinsurgency Field Manual. Naveh's volume provides an analytical account of the general development of Operational Theory up to the 2001 Iraq War, while his essay "Between the Striated and the Straight" specifically reflects the IDF's strategy behind their attack on Nablus and Balata in 2002. The U.S. Army/Marine Corps Counterinsurgency Field Manual

⁵ Adamsky partly attributes the failure of Naveh's ideas to the anti-intellectual culture of the IDF: "The IDF lacked sufficient intellectual capital to digest these ideas and to produce the theoretical antithesis in order to engage these new concepts critically" (128). Also, he does not consider the IDF's 2006 Lebanon campaign as adequate proof of the ineffectiveness of OTRI's "operational theory" because it was not really used during the campaign (108).

⁶ An example of this is a monograph titled "Systemic Operational Design: An Introduction" written by six students of the U.S. Army's School of Advanced Military Studies, in consultation with Dr Shimon Naveh and members of the OTRI, published by the School of Advanced Military Studies of the United States Army Command and General Staff College at Fort Leavenworth in 2005.

⁷ The IDF's attempt to change itself was greatly influenced by the US RMA (Adamsky 126), particularly after Operation Desert Storm (Adamsky 97).

serves as a complementary reference to Naveh's ideas by presenting an updated version of US military doctrine centred on an approach of operational design, as COIN becomes increasingly part of the military mainstream (*TUAMCCFM* xxiii). These doctrinal texts also reflect a trend of military institutions becoming learning organizations by drawing knowledge and discourse from other fields into the conceptualization of military doctrine to respond to the complexity of the battlefield, especially with regard to counterinsurgency operations. This appropriation is evidenced by the citation of non-military texts in the bibliography of the U.S. Army/Marine Corps Counterinsurgency Field Manual (*TUAMCCFM* xviii), besides the OTRI's explicit appropriation of terms from architectural/critical theory in "Between the Striated and the Straight".

The use of architectural/critical theory by the OTRI in IDF's urban warfare practices is seen in this thesis as a limit case of both military warfare and architectural practice; the unexpected convergence of activity in these disparate spheres raises a question on how this particular notion of design has surfaced for the military -- a notion which also bears a similar projective quality found in the description of the contemporary post-critical architectural notion of design. These notions find common basis in the logic of the network, as they are either enabled or influenced by the impact of network technologies, or seek to mimic characteristics of the network. However, an examination of the notion of netwar and network technologies reveals the network as an embodiment of an interactive relationship between architectural/urban notions of spatial order and the development of military strategy and warfare. Although netwar is regarded as a recent military phenomenon, the roots of network-centric info-communications technology lay in military beginnings which

seek to enable communication across – in effect, control over -- space and time; thus the workings of the knowledge economy, which are grounded in networks and their activities, bear military potential. Netwar also reveals the militaristic basis of the global city and urban space in general, a characteristic encapsulated in the idea of the ‘city-as-target’ (Bishop and Clancey). Although the city is commonly regarded as the physical embodiment of human cultural progress, it has also been conceived as a site for routine destruction and military attack. As Bishop and Clancey note, “[g]lobal cities bear the marks of their global status by virtue of targeting in myriad ways civil defense plans, emergency operations, and military infrastructure. ...[t]he imprint of the Cold War can be found everywhere in the great global city, in all of its technologies, in all the distributed systems that link cities in nodes...” (75).

Although the West Bank pales in comparison to the average global city with respect to the scale of its infrastructural development, the urban character of the area and the unusually high degree of insurgent activity in the area present the West Bank as the definitive landscape of an everyday reality, which, in these current times of the War on Terror, the global city constantly anticipates and lives through with greater frequency. Other than the local socio-political histories of specific agents and general publics that shape the organizational and social developments of a given city, the notion of a city is also predicated upon the standard use of infrastructural technologies, which include info-communications and transportation networks as well as architectural technologies by its denizens. Due to the military potential of these technologies, the term ‘city-as-target’, in this sense, can also be extended to describe Israel and the West Bank as these areas function according to the use of networks and technologies that have been exploited to a great degree by local insurgents. The

urbanized character of the West Bank also lends itself as a target, with buildings and refugee camp structures forming the grounds in which a spatial war is fought.

The case of Israel and its occupation of the partitioned Palestinian territories particularly exemplifies the idea of the ‘city-as-target’, or rather, ‘nation-as-target’, as Israel perceives the security of its nationhood as linked to the security of its territory and borders, due to Israel’s position vis-à-vis the other Arab states as well as the Palestinian authorities. With the civilian doubling up as the conscripted soldier, architecture has become a subversive weapon in the Israeli arsenal in securing Israeli space and influence as the settlement becomes the emblem for the construction (and defense) of the Jewish state. Nowhere else is the political dimension of architecture thrown into such stark relief as the design of architecture becomes deeply intertwined with national security. As Sharon Rotbard notes, “[e]very act of architecture executed by Jews in Israel is in itself an act of Zionism, whether intentional or not” (*A Civilian Occupation* 40). Until Israel’s withdrawal from the Gaza Strip and parts of the West Bank in 2005, Jewish suburban settlements were constantly planned and built by the Israeli authorities in the area, a policy which has been criticized as a colonizing move that damaged Arab-Jewish relations (*A Civilian Occupation* 33).⁸

Thus, Naveh’s use of architectural/critical theory in urban warfare can also be regarded as a development that is congruent with the Israeli ideology of utilising

⁸ For a survey of how Israeli borders and Israeli projections of national borders in plans have changed, and how Jewish settlements have spread over the years, please refer to Ilan Potash’s chapter “Settlements and Borders” in *A Civilian Occupation* (30-31). Zvi Efrat’s chapter “The Plan: Drafting The Israeli National Space” in the same volume, details how the processes of centralised territorial and infrastructural planning were integral to the literal and figurative construction of the Israeli nation state, as demonstrated by the formulation and eventual enactment of the Sharon Plan, “a document of principles...embracing dozens of cities and towns and hundreds of rural settlements ex machina; extensive woodlands, national parks and nature resorts ex fabrica; networks of roads, electricity, water, ports and factories ex nihilo” (64).

architecture as a means of political and spatial control. In Israel's case and its occupation of the Palestinian territories, we have an extreme example of the use of architecture as a targeting apparatus, revealing the militaristic nature of architecture, with Naveh's network-centric military tactics as an extension of existing strategies of controlling space. In this thesis, in comparing the OTRI's use of architectural/critical theory with post-critical architectural notions of design, I assert that architecture and the network are fundamentally both expressions of the same militaristic logic: the logic of targeting.

In examining the conditions of possibility pertaining to the emergence of these two articulations of design, I explicate the above claim by showing how conceptions of thought, architecture, the network and the military are interlinked in the notion of the target, and how they are derived from and influenced by their manifest forms, as well as by their situated contexts. I also provide an account of the emergence of a flexible disciplinary notion of 'design' with regard to the growing complexity of the network-informational city by explaining how the nature of the target develops from fixed and stationary, to increasingly mobile, multiple and selective. By highlighting links between areas such as military strategy/history, architectural history/theory, the history of thought and philosophy, discourses of governance, urban history and urban planning, as well as avant-garde aesthetics from the 18th century onwards, I demonstrate the multiplication and proliferation of the target that forms the material and immaterial networks, laws and codes which constitute the mechanisms of the network-informational city. These mechanisms simultaneously render the city as a target for terrorism and insurgency as well as a node in the knowledge economy. By providing this narrative of the network-informational city, I illustrate the totalizing

dimension of the logic of targeting that permeates the production and circulation of contemporary knowledge and culture, as suggested by architectural theorist Michael Speaks' comment in his article "Design Intelligence and the New Economy", "the catastrophic events of 9/11 are consistent with, not contrary to, the new marketplace" (76). In this sense, the work of the OTRI is an outcome of the market-oriented logic advocated by Speaks' conception of architecture.

Critical Thinking, Critique and Contestation

The projective thought of both post-critical architecture and the doctrine of the OTRI embody the notion of targeting: the act of projecting the attainment of a goal that is operationalised by the establishment or eradication of the boundary or the limit, the hinge-like entity that indicates the possible or permissible, which gives rise to security and control. The boundary is transitive in nature, as suggested by the direct connection established between the subject's aim and the object's defense in the physical act of targeting. Both post-critical architecture and the work of the OTRI are expressions of 'critical thinking' (referencing the term as used by the OTRI) which promote a sense of flexibility, smoothness and flow to their aims. In their editorial for an issue of *PRAXIS* magazine entitled 'Architecture After Capitalism', Schafer and Reeser identify various approaches to post-critical architecture, which appear similar to the approaches of the OTRI. These approaches include 'appropriation' (the re-inscription of elements and techniques into other contexts), 'pursuing' (accelerating the conditions which constrain design and using them as the basis of innovation), 'subversion' (reconfiguring elements of the system to achieve one's goals) and 'reorganizing' (a process I see as 'adaptation' -- redefining design by collaborating

with others to widen definitional boundaries, or by transgressing existing boundaries) (4). These approaches collectively enable movement across conceptual and physical boundaries by destroying and enacting new or multiple boundaries, as they shift and multiply the target.

However, while the boundary is exemplified in the mode of critical thinking carried out the critical thinking of the OTRI and the projective thought of post-critical architectural discourse, it is also exemplified in the mode of critique, a reflective mode of thought that identifies the boundaries or limits under which a phenomenon emerges. Just as post-critical architecture and the work of the OTRI take their own respective aims at different aspects of the urban experience, both cases have been targeted by respective critics for their ideological and socio-political repercussions. These critics are concerned that theory does not just translate into rhetorical effect; it is synonymous with actual operational force, extending Foucault's idea that knowledge produces, and is produced by power. Architectural theorists such as Reinhold Martin, George Baird, K. Michael Hays, Kenneth Frampton and Daniel Barber attack post-critical architecture from various perspectives which converge on its disregard for criticality within architecture as an entity, for its socio-political disingenuousness, and its complicity with consumerism. Weizman's critiques, in his essay "Lethal Theory" and his book *Hollow Land*, highlight the physical and ideological damage the IDF inflicts on the urban environment and their civilian denizens. Urban geographer Stephen Graham also identifies the use of civilian academic knowledge by militaries and thinktanks such as the OTRI for the purposes of urban warfare (which could be regarded as a practice of Open Source Intelligence) as disturbing and destructive towards cities. Their critiques fall under the subject of

urbicide, the murdering of the city, which examines the growing proliferation of politically-motivated violence in cities and the militarization of urban life.

Due to the transitivity of targeting, both critical thinking and critique – as exemplified in the debates over post-critical architectural discourse and the OTRI -- are modes of thought which are oppositional yet reciprocal, and it is the dynamic of contestation between these modes which accounts for the development of architecture extending into the network. It is also this dynamic of contestation -- instead of critical thinking alone -- that produces creativity and innovation enabling the generation of possibilities and alternatives, as well as the appropriation and misappropriation of any given element. It is my intention to juxtapose elements of both post-critical architecture and descriptions of the OTRI's work, alongside their respective critical objections, to expose the tensions between the opposing sides. These tensions generated exemplify the boundary/limit itself that constitutes the grounds of the thing defined: 'architecture'. It paradoxically conjoins yet divides, linking two separate entities through its existence. As we see from the opposing sides of the debate, 'architecture' is the term that is divided between material edifice and abstract concept; edifice and environment; edifice and the network; material edifice and immaterial signal; action and reflection; freedom and security; relationality and accountability, amongst other oppositions. It is also my intention to leave these oppositions unresolved to suggest the transitivity of targeting and the dynamic of contestation between these modes. In exposing this dynamic of contestation between critical thinking and critique, I reveal the flow of the network as disruptive projections of force of increasing speed --“a series of actions with trajectories and intentions, and with random and contingent results” (*Cities as Targets* 4). Far from embodying the

sense of smooth continuity that is suggested in notions of flow, the network consists of bordered spaces of complexity, instead of a borderless world of endless opportunity.

The Limits of Targeting and the Network

In this thesis, I outline a problem of criticality in the logic of targeting produced by critical thinking when specific limits are eradicated, resulting in the generation of ideological/socio-political implications, especially when a semblance of these limits continues to be maintained. The logic of targeting is physically manifested in network technologies, which constitute the basis of the network-informational city. While the interface of the network-informational city might seem smooth, its modulatory nature hides a set of invisible politics beneath its guise of transparency that renders it as a battlefield. With regard to knowledge production, the promise of interdisciplinarity or a more flexible disciplinarity might be a result of the replacement of eradicated ideological boundaries/limits with the imposition of invisible ones. It becomes crucial to maintain the assertion of critique, as the crossing of boundaries might turn out to be unidirectional and not bidirectional, and the inclusive flexibility of definition might exclude more socially or politically oriented concerns.

My analysis of post-critical architectural discourse and the work of the OTRI reflects a greater representation of the viewpoints from the critiques, as I desire to problematise the particular impression of smoothness associated with interdisciplinarity or flexible disciplinarity suggested by the rhetorical strategies of both sets of architectural/architecture-related discourse. I also emphasize the necessity

of the mode of critique, viewing these critiques from the academics/theorists as the embodiment of a continued production of resistance, which both the post-critical and the OTRI try to overthrow. They raise ideological or socio-political implications that is often overlooked or effaced in the application of critical thinking, especially as the target multiplies and becomes more precise and selective. Weizman uses the term “unwalling the wall” to describe the effect of the OTRI’s work, drawing a comparison between the OTRI’s breaking of walls with the work of avant-garde artist Gordon Matta-Clark, whose work featured cuts in buildings which served as a critique of its form and function. Weizman’s appropriation of the term “unwalling the wall” from Matta-Clark’s work highlights an insidious quality to the OTRI’s idea of subversion – although the work of the OTRI bears similarity to Matta-Clark’s art in physical form and purports to be subversive in its use of critical theory to critique the military, the OTRI’s projective intention to solve their problem of insurgency by killing insurgents runs counter to Matta-Clark’s desire to question aspects of the building’s existence to expose its institutionalised violence. Here, I use the term “unwalling the wall” to describe the imposition of new invisible limits upon the destruction of existing boundaries that result in ideological, social and political repercussions. There are serious implications from targeting with regard to post-critical architectural discourse and the work of the OTRI, and these implications also extend to all the other aspects of the urban experience.

The eradication of existing boundaries/limits might create movement for those who aim to achieve their goals, but the simultaneous imposition of new boundaries/limits might impede movement or freedom for other groups. Also, the target might fail to hit its mark as it is deflected or challenged by other targets, which

in turn, might generate other possibly unforeseen or even undesirable consequences. Schafer and Reeser also note a fifth approach to post-critical architecture which they call ‘aftermath’, the negative impact generated from adhering to capitalism’s practices (5), and this comes across most clearly in the OTRI’s violation of civilian rights as they move through the homes of Nablus, preventing residents of the safe use of their own homes. Not only were the residents of the West Bank physically affected as a result of the IDF exercise, it revealed the extent of control the military authorities had over academic freedom in Israel, as evidenced by the Kokhavi Affair which subsequently unfolded in 2006 – 2008. Weizman’s essay “Walking Through Walls” (which is published as a chapter in *Hollow Land*) was due to be published in an issue of Israeli journal *Theory and Criticism* on the occupation, however, the Chairman of the Editorial Board Gabriel Motzkin decided to send the article to Brigadier-General Aviv Kokhavi who was one of the interviewees in the essay (despite the article having been peer-reviewed twice), resulting in Kokhavi threatening to sue the journal on grounds of libel. Although Weizman was keen to follow up with court proceedings against Kokhavi, Motzkin and the journal’s publisher the Van Leer Institute decided not to pursue the case, and Weizman eventually withdrew the essay from the journal as a protest against self-censorship in the Israeli academic sphere which prevents academics and intellectuals from providing the necessary challenge of public critique on the policies and actions of the Israeli authorities that might prove oppressive to Palestinian and Jewish communities.⁹ Returning to Love’s critique of architectural

⁹ The Kokhavi Affair was not the first time Weizman had run into trouble with the Israeli authorities on academic projects. The Israeli Association of United Architects (IAUA) cancelled Weizman’s presentation with Rafi Segal on the political dimension of Israeli architecture for the Berlin Union Internationale des Architectes (UIA) congress in 2002, under what Sharon Rotbard claims as “the pretext of a low budget” (15). The IAUA also destroyed printed copies of the catalog for the exhibition. According to Rotbard, the IAUA’s decision to censor the catalog was a deliberate attempt to prevent any discussion on the political role of architecture in Israeli, as well as to limit the definition of architecture strictly to its form as structure/edifice (15 – 16). The volume *A Civilian Occupation* is the

education at the beginning of this introduction, the effect of ‘unwalling the wall’ also applies to Love’s observation of a certain disturbing trend of “schizophrenia” in design. Commenting on a student’s thesis from the Harvard School of Design, Love explains how the selectivity of parametric modeling does not account for various technical, social and environmental considerations, and this fails to help the student achieve his/her ambitious agenda of sustainability. The project also fails due to the student’s selective ideological focus, which blinds him/her to specific class-based realities that, should the project have been realised, bode badly for the growth of human communities living out the urban future.

While this thesis takes the OTRI’s work and post-critical architectural theory as objects of study, my analysis focuses more on making an inductive ontological argument that explicates the conceptual connections behind these objects to highlight the workings of a technised logic which enables and encourages the perpetuation of ubiquitous application. Although each application of this logic occurs within a complex set of circumstances to form the discrete material event, I confine my discussion to features of rhetorical and discursive commonality between the OTRI’s work and post-critical architecture discourse raised in this thesis instead of presenting each case within a deeper, individual explication of its immediate context (i.e. architecture history; the history of Israeli-Palestinian conflict – the creation of the nation state of Israel itself resulted from a strategy of partitioning). I underscore the role that the all-encompassing logic of targeting plays in shaping these different elements of contemporary culture. As such, the practices of the Palestinian insurgents are regarded in this thesis as equivalent to those of other insurgency groups such as

second edition of the catalog, featuring essays on the ways in which architectural forms and urban planning have contributed to consolidating Israeli territory and furthering Israeli influence in relation to the Palestinian population.

Al-Qaeda, due to the similarity in strategies and tactics used according to the availability of technologies the insurgent groups employ in order to achieve their ideologically different ends.

However superficial and limiting this strategy might seem to some readers, I hope that it will be helpful in providing a critical perspective different from the usual specificity of a regional socio-political analysis in approaching the OTRI's work, especially by treating it as a limit case that crosses traditionally inscribed contextual boundaries. While the work of the OTRI must have undoubtedly been influenced by Israeli-specific historical and political pressures,¹⁰ one must also examine the OTRI's conceptualisation of urban warfare as architectural practice on the level of what OTRI sets it out to be: abstraction, and also the general conditions of possibility that had allowed for such theoretical and operational practices to be valued by the contemporary army. This thesis sees both the OTRI's work and post-critical architectural discourse as articulations or manifestations of targeting within larger (infra)structural contexts such as globalization and the workings of the knowledge economy. Through such considerations, I aim to present the all-encompassing detachable connectivity of the urban networked area as the uneven developmental accumulation of theoretical tendencies and operational techniques/technologies which follow the logic of targeting, with global insurgency activity an inextricable product. In this sense, this thesis follows a similar trajectory taken in another work on global terrorism, Faisal Devji's *Landscape of the Jihad*, which presents the globalised nature of Al-Qaeda's insurgency efforts as linked to an abstraction of the terms 'jihad' and 'Islam' (xv) that "fragment[s]...traditional structures of Muslim authority within new

¹⁰ For a summary of Israeli military culture, please refer to Adamsky's chapter "The Impact of Cultural Factors on the Israeli Revolution in Military Affairs" (93- 129).

global landscapes” (xvi), resulting from the application of a logic that perceives their activities as ethical acts with universal effects detached from the usual local political intentions of insurgents, such as the desire for statehood (2-3). Devji rejects situating his analysis squarely within socio-political genealogies of Islam itself to illustrate Al-Qaeda’s challenge to traditional Islamic authority, and attributes the globalization of Al-Qaeda to their acceptance of failure in various local Islam-related struggles for sovereignty (i.e. the Palestinian cause) within the context of the Cold War/post-Cold War geopolitical landscape (28-29), which allows them to subsume these past political struggles as events “emancipated for different uses in the present” (30). He also discusses the impact of the media in perpetuating the global reach of terrorism. In this respect, I see Al-Qaeda’s logic as that of targeting; Al-Qaeda is regarded by Devji as a global movement precisely because it elides local or geographical concerns in the name of the metaphysical, allowing Al-Qaeda to appropriate various histories and causes to justify its more universal aims (74). Conversely, this is the same logic that also allows the applicability of the term “War on Terror” to extend to local insurgency groups in Palestine, bringing specific places such as the West Bank into the categorical fold of global cities. This thesis highlights the development of theoretical structures and technologies embodying the logic of targeting that enable such abstraction to occur on that level, as well as the implications of their use.

Thesis Structure

This thesis is divided into three chapters. Chapter One outlines the grounds of enquiry: the crisis of architecture theory as the challenge of the network, especially in the context of the network-informational city -- the ‘city-as-target.’ It introduces post-

critical architecture as well as the OTRI, and highlights a similar militaristic, projective character to both their definitions of architecture, as well as a common emphasis placed on ‘design.’ Examining the network-centric rhetoric of post-critical architecture and the work of the OTRI alongside arguments made against the influence of the network upon architecture, I identify a tension drawn between the notions of architecture and the network. By explaining the interconnections between conceptions of architecture and knowledge through notions of mediation, structure and construction, I demonstrate how the logic of the network is an extension of the logic of architecture. I also highlight a transitive relationship between the definitions of ‘architecture’ and ‘network’ that can be attributed to the contestable establishment of limits between them.

Chapter Two continues the discussion of transitivity and limits from Chapter One, by examining the conditions that make the OTRI’s appropriation of architectural/critical theory for the use of urban warfare possible. Identifying a militaristic character to the notion of architecture in its establishment of security and control over the environment, I demonstrate how architecture (and the network) is an expression of the militaristic logic of targeting, with the wall as a physical embodiment of the boundary/limit. I explain the logic of targeting as the basis of modern rational thought, an expression of technicity that is motivated by *praxis* and the projection of a finite end: it is an operational logic which connects action with perception in the achievement of a goal. The OTRI’s use of architectural/critical theory can be explained by how theory is used as an abstract optical apparatus which organizes the battlespace and allows the military to project their next action. As the logic behind scientific conceptions of thought, targeting is the basis of the ergetic

ideal of knowledge as construction. These conceptions of thought have become adopted by the military that lead up to the development of Operational theory, and have also been assimilated into modern architectural theory and practice. I point out the transitivity inherent in targeting which is derived from the close relationship established between the subject and the object suggested by the etymological meaning of the word ‘shield.’ This transitivity is manifested in the boundary/limit which gives rise to the paradox of criticality in its ability to divide and conjoin. I explain how targeting consists of two oppositional yet complementary modes of thought, critical thinking and critique. I also illustrate how post-critical architectural discourse and the OTRI’s use of urban theory embody critical thinking while the arguments of their opponents embody critique.

Chapter Three further examines this notion of transitivity in targeting by discussing the dynamic of contestation between critical thinking and critique, and how it underpins the production of knowledge, architecture and the mechanisms of the network. Drawing upon the ideas of Foucault and Deleuze, theorists who have inspired post-critical architectural discourse as well as the work of the OTRI, I demonstrate how it is this conflicting dynamic between the two modes of criticality that produces creativity and innovation through the constant institution and eradication of the boundary/limit. It is this conflicting dynamic which also allows for the instrumental appropriation and misappropriation of any given element that accounts for the ability of the OTRI to use architectural/critical theory. By tracing the development of the military target and showing how it intersects with developments in governance, urban planning and avant-garde aesthetics from the 18th century, I provide a critical account of how the acceleration and intensification of this

conflicting dynamic has led to the development of the network-informational city, a city dominated by the complex modulatory interplay of material and immaterial boundaries/limits.

In this chapter, I explain how the pervasive reach of this logic has ideological and socio-political repercussions. Extrapolating Weizman's critique of the IDF's practices as "unwalling the wall," I identify problems with projective critical thinking through a discussion of the OTRI's work in the Occupied Territories and the subsequent Kokhavi Affair, as well as some implications of the rhetoric of post-critical architecture. Although the exercise of projective critical thinking purports to eradicate boundaries/limits in the name of freedom, it might deliberately institute invisible boundaries/limits which impede the autonomy of movement of other actors. The arguments raised by the proponents of post-critical architecture reflect a desire to discard theory for a disciplinary stance that allows for the expansion of architecture's applicability in contexts and the widening of its reception to commercial interests. However, its "non-oppositional" nature also effectively divorces socio-political responsibilities from architecture while maintaining its relevance in those areas. We see a similar effect in the Kokhavi Affair, which raises questions on the state of Israeli academic freedom, as Brigadier General Aviv Kokhavi attempted to exculpate himself from academic criticism by threatening to sue Weizman over the display of his identity in Weizman's critique, which was to be published in an Israeli academic journal.

Furthermore, even though the target is increasingly selective, it may not reach its goal as it can be deflected or challenged by other multiple targets projected or

defended. This might result in negative socio-political repercussions for various groups which include various instances of ethical and physical damage that the Israeli military enacts upon the Palestinian populace in the name of security, that, as Weizman argues, is justified by the Israeli military by the use of academic critical theory. Thus, we see that the effects of the target can generate longstanding consequences, which unfortunately concern life and death. By emphasizing the countering need for critique, in this chapter, I assert that while the destruction of boundaries/limits under projective thought indicate opportunities for freedom of movement, these boundaries/limits also need to be tracked or defended in order to preserve or enclose certain spheres of freedom. I reiterate that one needs to be mindful of the political/social implications of the seemingly easy usability/application of such thought and its manifest technologies, especially as the target multiplies exponentially in the context of the city.

Architectural Theory as Target

In the 1984 essay, “The Overexposed City”, urban theorist Paul Virilio, in a projection of foresight, sees the contemporary city as an interface, the “urban figure...a computerized timetable” (14). The city is dominated by infrastructural networks which proliferate an immaterial culture: a landscape of digital images projected on screens, and electromagnetic signals of wireless data transfer. This vision is affirmed by designer/urbanist Dan Hill’s 2008 blog post, “The Street as Platform”, where he provides an impression of what the street of the future would look like, based upon the street of the present. He notes “how the street is immersed in a twitching, pulsing cloud of data.” In Hill’s description of a typical street junction, invisible streams of data are being circulated from a variety of electronic technologies, which might include the data emitted from Nike jogging shoes, the music played on an Apple Ipod, and the data transmitted from a BMW on its engine performance back to its service centre.

Dan Hill’s blog, *City of Sound*, is part of a social network technology which allows a user to publish his/her thoughts on the internet and link them to others across time and place. It is a performance of how knowledge and information are pervasively generated, applied and distributed through info-communication systems. These systems, alongside transportation and utility networks, form the basis of the network city, home to what Manuel Castells terms the “informational society”,¹ or the network society. As a commentator on ICT (Information and Communication Technologies),

¹ In *The Rise of the Network Society*, Castell argues the Information Technology revolution from the 1980s has restructured the capitalist system under the logic of advanced capitalism (13) – termed ‘informational capitalism’ – and it has transformed and reorganized social, political and cultural aspects of modern life.

Hill, in blogging about his thoughts on the relationship between info-communication technologies and the city, generates ideas based on questions which are disseminated to other readers. These readers then exponentially generate further information by either commenting or questioning what Hill has published, reproducing or appropriating Hill's thoughts by linking his post on various social network technology platforms, such as other blogs or sites like Twitter and Digg. These info-communication technologies have been part of the driving force behind Peter Drucker's notion of the "knowledge economy", an economy based on the production and management of knowledge as assets, which is related to post-industrial capitalism. The global city functions as a node in an elaborate network which forms the knowledge economy. Through the infrastructural networks of the global city, global capital, consisting of resources and products in the form of knowledge and information (including the movement and migration of knowledge workers), is generated and circulated across countries and borders in forms of code. Knowledge workers equate the application and processing of knowledge to immediate action, i.e. knowing to *doing* (Castells 32). They generate capital by acting upon – more specifically, reconfiguring or reinventing – cybernetic information/knowledge systems based on information feedback from these systems themselves.

Driving a global economy based on the incessant circulation of goods, people and information across countries and time-zones, info-communication networks and infrastructural systems of transportation and utilities complicate territorial and geographical boundaries. The question of how space is conceived under the impact of these technologies arises, which subsequently raises questions on how architecture relates to, and is conceptualized, under the network and the 'informational city'

(Castells 398). Network infrastructure and info-communication/media technologies detach space from its physical, geometrical boundaries. Space increasingly comes across as virtual, grounded in the basis of information. It becomes emergent in nature, with its boundaries becoming time or event-based; for example, space is not just the physical area traversed by a person, it is also an opportunity to act upon receiving information from a message communicated through a mobile phone in a given locale. As Virilio notes, “urban architecture has to work with the opening of a new ‘technological space-time’” (“The Overexposed City” 13), and through these broadcast technologies, “spatial dimensions have become inseparable from their rate of transmission” (“The Overexposed City” 14). Our understanding of the notion of space is increasingly more dependent on time than place, as info-comm technologies are able to transmit images, videos and information from another part of the world in real-time and connect multiple places simultaneously. They bypass our physical necessity to travel in order to be present in a place. Thus, the traditional notion of architecture, more commonly associated with a sense of monumental fixity, now sits somewhat ambivalently with the notion of flow associated with the network.

Not only are network-generated environments complex in the ways they encourage circulation and flow, they also increase the level of uncertainty and risk in the city, as they heighten the prospect of threat from attack by transnational terrorist organizations. The openness of networks and systems which allows the city to flourish, also constitutes the city’s point of vulnerability, as it turns the city into a targeted site of urban warfare. Terrorists are able to access the same networks and systems as civilians to inflict damage upon civilian populations. This is seen in the tactics of terrorists in cases such as the July 2005 London bombings, and more

recently, the 2008 terrorist attacks in Mumbai. Part of what Arquilla and Ronfeldt term 'netwars', these attacks pose new threats to national security as the enemy is often elusive. These decentralized organizations, functioning in loose networks, remain undetected until they strike, as their use of network technologies to coordinate their communication and action allows them to operate under civilian cover. As the discipline responsible for conceptualizing the buildings and edifices that shelter and house human activity, architecture -- along with disciplines such as civil engineering and urban planning -- also has to respond to and manage the uncertainty and insecurity resulting from these overhanging threats of urban warfare, alongside other emergencies and disasters of urban or natural origin. As Bishop, Clancey and Phillips assert, "the experience of urban living is increasingly characterized by the *state of emergency*: the sense of the present condition is one of exception; that anything can happen next, and likely will" (*Cities as Targets* 6). This 'state of emergency' also extends to a sense of disciplinary crisis in knowledge production, especially with regard to the discipline of architecture.

This sense of crisis in architectural practice and theory is affirmed by what Kate Nesbitt identifies as the crisis of meaning within the discipline of architecture. This crisis arrived with the onset of postmodernism that historically corresponded to the rise of these network technologies in the 1960s as part of "the new international order" (Jameson qtd. in *TANAF* 21). The grounds of this crisis lie in architectural discourse, where much confusion about the meaning and applicability of architecture theory has led to its demise,² as demonstrated in the attacks on "criticality" in architectural discourse and practice which had formed the basis of Critical

² This is outlined by Manuel J. Martín-Hernández in his article "For (a) theory (of architecture)".

Architecture³ in the 1970s and 80s (Baird 16). However, some theorists and academics have perceived this attack on criticality as an opportunity to affirm architecture's relevance to the knowledge economy and the network city. They assert a need for architecture to adapt to the challenges of uncertainty in the new economy through creativity and innovation. Post-critical⁴ or projective architecture, is a term which has been used to describe a particular trend in architecture that began in the 1990s and continues into this century. It adheres to "flexible disciplinarity" (Barber 245), the adaptation of thought and practices from other disciplines and industries in architectural practice which is 'non-oppositional' ("Critical of What?" 104) to aspects of society, as opposed to the 'resistance' of Critical Architecture. According to academic Michael Speaks, it rejects the heavy "awkwardness of theory" ("TFTAG" 77), especially of Deleuze and Guattari, for the lighter "conceptual athleticism" of "consultants and business thinkers" ("TFTAG" 77), which bears more relevance to the world of commercial and entrepreneurial activity surrounding global markets and network technologies. While his rhetoric suggests entrepreneurial initiative, it also bears a militaristic slant. He specifically makes the claim that the terrorist events of September 11 2001 are "consistent with, not contrary, to the new marketplace"

³ In this thesis, "Critical Architecture" refers to the movement of architectural thought and practice traced back to the work of Peter Eisenmann and Michael K. Hays which establishes a critical position of "resistance". In the article "Critical of What?", Reinhold Martin identifies two opposing positions of criticality which are conflated with each other: 1) Hays', based on the work of Manfredo Tafuri, which was a politically-related critique that emphasized on a negative dialectic against the violence of late capitalism, and 2) Eisenmann's critique, known as the autonomy project, which was aesthetically focused on the negating and questioning the internal assumptions of the discipline (105). George Baird also mentions that other notions of criticality such as Kenneth Frampton's more politically-oriented position of "resistance" against consumer society have contributed to the notion of criticality in Critical Architecture (17).

⁴ My definition of post-critical architecture is derived from a collection of texts which have been identified as promoting the post-critical (i.e. articles/texts by Somol and Whiting, Michael Speaks), and texts which criticize the post-critical (i.e. articles/texts by Daniel Barber, Reinhold Martin and George Baird). There is no unified position presented by the post-critical camp. For instance, Somol and Whiting qualify that their stand "does not necessarily entail a capitulation to market forces" (77) -- which also lists no clear alternative -- while Michael Speaks advocates the adoption of market practices. However, the arguments posed by the various proponents of what has been identified as the post-critical espouse similar arguments refuting the disciplinarity and autonomy of Critical Architecture in favour of a more 'performative' notion of architecture.

("DIATNE" 76), and suggests that architects should be comfortable with adopting practices of "open source intelligence (OSINT as it is called by the CIA)" ("DI" 16), recasting the logic of architecture as 'design intelligence'. Implicit in Speaks' rhetoric is the suggestion of a traditional relationship between business and war usually underpinned by notions of competition and survival. He argues that architecture should willingly *adopt* this militaristic mantle of 'intelligence' for it to survive and thrive in the 21st century.

While post-critical architecture targets architectural theory, as if to prove the proponents of post-critical architecture right on architecture's adaptability to different contexts, architectural theory is targeted and exploited by the military for its own uses. Speaks' references to terrorist activity as a metaphor to describe architectural practices becomes operational in the case of the Israeli Defense Forces' (IDF) use of architectural theory in their urban warfare strategy as a targeting apparatus against the Palestinian insurgents. The Operational Theory Research Institute (1996 – 2006) was an institute of the IDF which looked into the conceptualization of military strategy and doctrine. Under the leadership of former Brigadier General Shimon Naveh, they conceived military strategies of asymmetrical warfare by incorporating the work of theorists who are more commonly found in architecture school syllabi. The list included Deleuze and Guattari, Tschumi, Christopher Alexander and Guy Debord -- a body of knowledge described by Naveh as "critical theory" ("LT" 67). Calling themselves 'operational architects', the OTRI regarded urban warfare as a problem pertaining to the interpretation of space, and they used these theories to conceive a "toolbox approach" ("LT" 64) to warfare. An actual manoeuvre was conducted in 2002 to target and kill key Palestinian insurgents, based on the application of

architectural theory. As Israeli architect Eyal Weizman notes, if “criticality has withered to some extent in late 20th-century capitalist culture” (“LT” 54), it has found its use by these soldiers who see themselves as critical thinkers “shar(ing) more with architects, as (they) combine theory and practice” (“LT” 68).

Although both groups do not usually invite comparisons with each other, there seems to be a degree of mutual appropriation of rhetoric between post-critical architecture and the OTRI’s use of architectural/critical theory. Both seem to endorse a more fluid definition of architecture which transcends its usual disciplinary limits, and exploit this definition for use in network-centric contexts. They each have also attracted their fair share of criticism. Architectural academics such as Reinhold Martin, George Baird, K. Michael Hays, Kenneth Frampton and Daniel Barber have criticized post-critical architecture for its rejection of theory and critique, and for its compliance with consumerism. And architect-academic Eyal Weizman has written on the ideological problems of the OTRI’s selective use of architecture/critical theory, alongside urban geographer Stephen Graham, who is concerned about the application of violence against the city.

Even though one might openly object to the nature of the OTRI’s work as architectural, it might be useful to question how this opportunity to use architectural theory for the purposes of urban warfare had emerged for the military -- especially when theory was (and still is) in the process of being renounced by architects themselves. It might help provide insight into the notion of architecture that is currently constructed or defined in relation to the network, as well as the nature of the crisis that architecture has found itself in. Has architecture become besieged by

network technologies and the knowledge economy? Has it become subjected to their domination, or is architecture the creative driving force behind the network and the knowledge economy itself? What is the relationship between architecture and the network, and what is considered ‘architectural’ in the first place?

The Challenge of Networks As The Crisis of Architectural Theory

The discipline of architecture, situated within networks, has found itself in a position of crisis, where, on the one hand, architects have embraced the reality of networks and the ideologies attached to them. Some architects have proposed that architects in general do not engage themselves enough in this area and thus lose out to specialists in other disciplines which encroach on their field.⁵ On the other hand, others have objected to or resisted aspects of it.⁶ Paul Virilio articulates some of these objections in “The Overexposed City”, beginning with the view that architecture seems to have become mediated by these networks into mere technologies of industrial production; he surmises that architecture “has rapidly declined” (22), becoming increasingly technological – “a kind of machinery gallery...technologies derived from industrial *machinism*” (22).

While Virilio’s opinion is debatable, it is true that architects now engage in the widespread use of computing technologies. They work with new digital imaging and design tools (e.g. Computer Aided Design, or CAD, and Computer-Generated Images,

⁵ An example of this is Usman Haque’s response on the development of Augmented Reality in the *Icon Magazine* article “Reality 2.0”: “ ‘The production of so much of what we call architecture is done by people other than architects,’ he says. ‘The experience of space is more and more guided by technologists.’ ”

⁶ This attitude is derided by Michael Speaks as he mentions that “(E)ven the most forward-looking members of the architectural establishment have ignored the...innovations in architectural practice and product” (“DIATNE” 73), with most architects keeping their distance from business practices.

or CGI) that are shared by other professions, such as animators, industrial designers and art directors of advertising and marketing firms,⁷ which puts them on the same operational platforms as the military, as the same technology drives the C4ISR⁸ framework developed and utilised by most modern militaries, which integrates and coordinates various components of the military through the sharing of information via info-communication and computing networks. The post-critical enthusiasm for flexible disciplinarity reflects an alignment with the neo-Fordist principle of flexible specialization. By turning towards business principles, architecture might indeed become more industrial in character by renouncing its claim to art. There has been a reconfiguration of the work of architecture into the gathering and processing of information as there has been a rise of architecture research studios which “eschew criticism in favor of information gathering” (Varnelis). Architecture has become a “research-based business rather than a medium of artistic expression” (“DIATNE” 73).

Due to the incorporation of these networked technologies, this crisis in architecture is reflected on the level of discourse, as these technologies have enabled the multiplication and proliferation of the architectural image. This occurs in the form of architectural representations and presentation drawings, as well as images of the built edifices themselves circulated in print and screen which are separated from the physical experience of construction as well as the physical experience encountering the building itself. The domination of visual culture from media has, in turn, affected architectural theory – the abstract discourse which articulates the intentions and

⁷ Some examples of the use of such technologies include Greg Lynn FORM using design animations, MVRDV using “datascares” and Crimson and MAX using scenario learning in urban planning (“TFTAG” 77).

⁸ This abbreviation stands for ‘Command, Control, Communications, Computers, intelligence, surveillance, and reconnaissance.’

practices of architecture, along with its challenges and evaluations of its cultural relevance (Nesbitt 16). It has made architecture more aware of the discursive and representational elements of its own project which distinguish architecture from building; as Tschumi says, “architecture does not exist without drawing, in the same way that architecture does not exist without texts” (*TANAF* 152). However, Virilio also sees an incompatibility between the nature of architecture and the nature of mass communication (“The Overexposed City” 22). He regards the ability of architecture to organize and define “a unity of time and place for all actions” (22) at odds with the structurally fragmented, disorganized and free-floating nature of the media. Observing a preoccupation with “disciplines of expression, modes of representation and modes of communication” in discourses on modernity, Virilio notes that discussion in the media on political acts “**now** involves the **architectural expression** (emphasis mine) which cannot be removed from the world of communication systems” (“The Overexposed City” 21), and in turn, “[architecture] suffers the direct or indirect fallout of various ‘means of communication,’ such as the automobile or audiovisual systems” (21). Architectural discourse has been pulled into public discourse, and has become detached from its original disciplinary context (which enables the OTRI to utilize it), as the methods of ‘communication’ – the network technologies which broadcast or transport – also affect and shape the way architecture is conceived. It seems that architectural discourse reflects more of the dispersing, projectile stamp of media networks than the unifying essence of architecture itself, which effaces its critical relationship to Man living in his environment.

This belief could be reflected in the way both post-critical architecture and the strategy of the OTRI follow the logic of the network: an abstract organizational model

that is based on relational connections forged between any given two entities or more. Assuming the relational role of architecture to other phenomena, post-critical architecture has increased the flexibility of the definitional parameters of architecture with the notion of design, asserting architecture's relevance to society as a whole. While design is defined as the work of architecture, it is a discipline with practices which are relative to its application, so its practices and applications need not necessarily be traditionally architectural (hence the 'flexible disciplinarity' of post-critical architecture). Michael Speaks provides an extensive definition of 'practices' as "techniques, relationships, intelligence, and dispositions that shape design" ("TFTAG" 76), and Somol and Whiting state that "design delineates the fluctuating borders of architecture's disciplinarity and expertise...[Architects] engage these different fields (such as i.e. economics or civic politics) as experts on design's relationship to those other disciplines, rather than as critics" ("NATDE" 75). Somol and Whiting demonstrate this flexibility in architecture in rhetorical terms by featuring the Doppler Effect, an effect utilised in radar technologies, as an analogy of design in their essay "Notes around the Doppler Effect and other Moods of Modernism", alongside the difference between actors Robert De Niro and Robert Mitchum. Architects bear the knowledge of design which is applicable as a "performance or practice" that is "not necessarily oppositional" ("NATDE" 75) to varied contexts, as "the discipline is not a fixed datum or entity, but rather an active organism or discursive practice, unplanned and ungovernable" ("NATDE" 75). The scope of architectural work has expanded with architects working in "network studios" which encourage the extension of "existing forms of cooperation with clients, investors, users, and technical consultants to include design engineers, finance

people, management gurus, process specialists, designers, and stylists” (“DIATNE” 72).

Speaks illustrates this notion further with the idea of ‘design intelligence’, design practices which “are more entrepreneurial in seeking opportunities for innovation that cannot be predicted by any idea, theory or concept” (“DI” 16). This idea is exemplified by the work of architecture firms such as George Yu Architects and SHoP in New York City which “specialize in design intelligence that extends from branding and marketing consulting to product and building design” (“DI” 16). However, some have regarded this development in architecture as undesirable as they see architecture losing its integrity. In the eliding or “dissolving [of] criticality in building production” (Fraser 320), architecture ceases to be architecture in its assimilation into consumerist practices of branding. As Kenneth Frampton notes with the ascendancy of global capital’s influence on architecture and its embrace by contemporary architects, there is a “suppression [of] the term *architecture* altogether” (xii). This is in reference to Kevin Erwin Kelley’s redefinition of architectural services as ‘Perception Design’ in his essay on design marketing, “Architecture(s) for Sale”, which argues that architects should shift their traditional identities as “commissioned artists, [who] often shun architecture that helps companies to sell” (50) to embrace the work of advertising and marketing, as “[u]ntil...architects begin to think like capitalists, these [marketing and advertising] agencies will continue to take work [architects] could have” (51). According to these critics, architecture has been co-opted by advertising and marketing, as consumerism requires spaces to be designed for their own purposes.

This pejorative element of ‘design intelligence’ is further emphasized in the military’s adoption of architectural theory for the purposes of destroying the city, importing the influence of architectural theory (or what OTRI calls ‘critical theory’)⁹ from the civilian sphere. Speaks’ notion of architecture as design intelligence seems to be in accord with the OTRI’s intention of using architectural/critical theory as an organizing discursive framework in their military doctrine. Design, as defined by the US military, “inquires into the nature of a problem to conceive a framework for solving that problem” (*TUAMCCFM* 139), and the application of architectural theory to the military doctrine of the OTRI is an example of the application of design intelligence to warfare -- architectural theory provides the apparatus for the ‘topstight’ of the urban battle space. The OTRI’s military strategy is based on swarming, where large numbers of multiple autonomous dispersed units gather to concentrate an attack on their enemy -- termed as “sustainable pulsing” – then subsequently disperse (*Swarming* 21). While swarming appears to be a spontaneous form of warfare with decision-making decentralized amongst the soldiers, at a doctrinal level, organization is still required for the success of swarming as it presents a larger picture of the battle situation amongst the soldiers, providing an overarching understanding which informs their actions in the absence of a specific linear plan. Narratives or theories provide this doctrinal vision (Weber 102), and in this case, design is a means of constructing the overall battle narrative in non-linear spatial terms, and inventing operational methods. The ideas of architectural theory used by the OTRI relate to the subversion of traditional notions of fixed geometric space, with Situationist practices of *dérive*

⁹ Besides architecture theory and thought, the reading list for the OTRI and other military institutes reflect a range of writings from fields such as urbanism, psychology, cybernetics, postcolonial and poststructuralist theory (“LT” 54). Some of the titles that Weizman states from the OTRI’s reading list in footnote 3 in the introduction to the article “Between the Striated and the Smooth” include *A Thousand Plateaus* and *What is Philosophy?* by Deleuze and Guattari, *The Logic of Architecture* by W.J.T. Mitchell, *Questions on Space* by Bernard Tschumi and *The Lost Dimension* by Paul Virilio.

and *détournement* turned into tactics for operating in the battlespace which is conceived as a network within an intricate system of interlinking networks that constitute the city (“LT” 64). Thus we see that architectural theory has seemingly been co-opted by the military. Eyal Weizman, along with urban geographers Stephen Graham and Simon Marvin, have voiced their alarm over the rise of military urban research institutes similar to the OTRI which employ the use of architectural theory as the basis of their military strategy and research. They question the application of theory traditionally taught and discussed in the civilian academic arena by the military and discuss the implications of the transgressive use of such theories by the “shadow world” (“LT” 54) of these military research institutions, as the critical thinking which passes off as the application of critical theory that the OTRI espouses bears little resemblance to the work of critical theory made famous by the Frankfurt School, as they clearly seem to ignore the socio-political implications of their work.

It is also evident that post-critical architecture and the doctrine of the OTRI have adopted the tenet that knowledge is an operational entity, as Speaks specifically aligns his position with the philosophy of business management theorist Peter Drucker in his criticism of Pragmatism in architectural practice. His statement, “the goal should have been to emphasize thinking as doing” (“DIATNE” 73) echoes Naveh’s comment that “[a]ction becomes knowledge and knowledge becomes action” (“LT” 65). As post-critical architecture discards the intellectualism of French poststructuralist-based architectural theory for ‘intelligence’ which would propel architectural performance, the military becomes aware of a paradigmatic change to warfare based on the necessity for “informational superiority” (Mitchell 30). This awareness has led to the military adopting C4ISR and Network-Centric Warfare

(NCW), with the OTRI acquiring architectural/critical theory as an abstract means of structuring their military action. Drucker's tenet¹⁰ is similar to what Virilio calls "tele-action" (*Virilio Live* 83): the speed of tele-technologies reducing the distance between the transmission of information and action to the point of instantaneity. This speed explains the rapid rate of change contributing to the complexity¹¹ of the knowledge economy as well as asymmetrical network-centric warfare. For one to counter such complexity, there needs to be innovation in predicting the problem of change and organizing one's response to influence its outcome.

So while it seems that post-critical architecture and the OTRI have different aims and methods as the former disregards architectural theory to achieve greater commercial value, and the latter uses it to fight wars, a closer examination would reveal that both have similar approaches and agendas: to adopt the logic of the network to counter the generation of complexity and uncertainty by the networks themselves, exemplifying Arquilla and Ronfeldt's observation that "it takes networks to fight networks" (*Networks and Netwars* 15). It cannot strictly be said that post-critical architecture does not have a theoretical base as it, like the OTRI, relies on poststructuralist-derived ideas of indeterminacy, multiplicity and emergence that reflect the logic of the network, complementing the philosophy of the knowledge economy. Post-critical proponents still evoke the thought of Foucault ("NATDE" 75)

¹⁰ Peter Drucker provides an account of the transformation of capitalist society to the post-capitalist knowledge society in *Post-Capitalist Society*, hinging on the impact of Frederick Winslow Taylor's application of knowledge to work which increased productivity (i.e. the analysis of work and breaking down into various stages or practices) which has become known as Scientific Management. Knowledge is the organizing resource for production factors such as land, labour and capital, and the management of knowledge (especially the application of knowledge to knowledge) thus results in effective production. Drucker does not explicitly mention the role of tele-technologies in bringing about the management revolution, however, he makes passing references to them while discussing phenomena such as the restructuring of organizations (52), outsourcing (84) and transnationalism (130).

¹¹ Sanford Kwinter defines complexity at its basic level as something which "implies the presence within a given system of a surplus of variables whose interactions cannot be correlated or predicted ahead of time with any degree of certainty" (44).

and Deleuze and Guattari (“NATDE” 75), ideas which are echoed in the texts that Naveh uses for the OTRI to “adjust itself to the stealthy capability of the enemy” which is “scattered like a network of loosely organized gangs” (“LT” 61). Foucault’s analytical tool, the *dispositif* – described by Deleuze as “a skein, a multilinear whole” (*Two Regimes of Madness* 159) – conveys the logic of the network. This logic is also reflected in Deleuze’s own statement that “practice is a set of relays from one theoretical point to another, and theory is a relay from one practice to another” (“IAP” 206). According to Speaks, Deleuze’s thought remains relevant as it enables action and freedom of movement, although it is also regarded by Speaks as too ‘slow’ to cope with the changes of the network (“TFTAG” 77).

What post-critical architecture and the work of the OTRI seem to reflect is the totalizing effect of the network which penetrates and fragments all discourse and action, including that of architecture. The pervasive reach of the network has seemingly led to the redundancy of architectural theory and the transplantation of its use in other spheres such as the military. Network technologies, as well as the accompanying ideology of the knowledge economy, have seemingly imposed themselves onto the discipline of architecture, resulting in a more discursive and flexible definition which some theorists and academics object to, on the account that it undermines architecture’s relationship of critique to the environment. These critics insist that architecture is *accountable* for the socio-political effects of its execution, instead of just being relational. However, as much as one argues for what seems to be the corruption of architectural discourse and the discipline of architecture itself by the domination of these network technologies, one has to examine the conditions of possibility of the connections forged by post-critical architecture and the OTRI

between the logic of network and that of architecture. As we will see, the network cannot be regarded as an entity which is mutually exclusive from architecture, developed only by technologists. The logic of the network could also be said to be the development of the logic of architecture.

An “Active Between”¹²: Architecture As Transitive Medium

In the essay *The Architectural Brain*, Mark Wigley suggests that instead of considering the effects of networks on architecture, we should reflect on “the curious architecture of all networks and the networked condition of all architectures” (30). He provides a short history of the network as the development of architectural thought, beginning from the 17th century, in the form of the debates between Claude Perrault and the Royal Academies of architecture. It is undeniable that instead of architecture being mediat-*ed* by network technologies, it can also be seen as a mediat-*ing* influence on network technologies and the “knowledge economy”. In other words, media and info-communication networks have an architectural element in themselves. The term architecture is as much defined by the abstract notion of design (i.e. architecture as representation/model) as by the concrete edifice, and is usually identified with the notion of structure and the “construction¹³ of techniques...reorganizing both the world of everyday experience and the esthetic representations of everyday life.” (“The Overexposed City” 21). Ironic as it seems,

¹² Somol and Whiting, in their note to their description of Hays and Eisenmann’s work (note 4), refer to Fredric Jameson’s theoretical definition of mediation as an ‘active between’: “an engaged interaction between two subjects or between a subject and an object, rather than a passive between that operates as pure conciliation between two terms.”

¹³ I will be adhering to architectural historian Eduard F. Sekler’s definition of construction as “the concrete realization of a principle or system – a realization which may be carried out in a number of materials and ways” (10).

the network also constitutes a typology of structure¹⁴ -- albeit one which is not fixed or clearly defined -- as it is grounded on a paradox that sees flow dependent on organization and vice versa. As Manuel Castells argues, the ‘informational city’ can be seen as a “process characterized by the **structural domination** of the space of flows (emphasis mine)” (398). Hence, architecture, with its connotations of form,¹⁵ structure¹⁶ and the organization¹⁷ of spatiality, has an intrinsic part to play as an ordering concept shaping the notions of network and the information it transports. It is not surprising that the notion of ‘system’ which is common to networks, is also identified with architecture, as it suggests the integrated unity of various components which can be only achieved with some form of operational structure.

While architecture has always concerned itself with the organization of the physical environment, on an abstract level, it has also been used as a mental means of organizing knowledge and information, thus it cannot be said that thought is distinct from architecture. Kant states in the *Critique of Pure Reason*, “Human reason is by its nature architectonic” (A475/B503), and the difference between knowledge and information could itself be characterized as architectural. Knowledge is defined as information which has been effectively ordered and organized into a coherent, integrated body. Historically, architecture, thought and knowledge have been symbiotically connected notions, and this symbiosis is demonstrated in Frances Yates’ account of the invention of the classical art of memory. Architecture became a

¹⁴ Ronfeldt and Arquilla list three general types of network structures in *Swarming and Networks and Netwars*.

¹⁵ In general, form can be defined as the outward shape of an entity.

¹⁶ Sekler defines the general concept of structure as “a system or principle of arrangement destined to cope with forces at work in a building” (89). Here, I extrapolate the definition of structure to encompass not only buildings, but also any entity constituent of parts which can be arranged to form a whole.

¹⁷ I define ‘organization’ as the coherent coordination of different parts of an entity, especially to fulfill a function.

technique of thought that reproduced knowledge, as it was a means of framing place (*loci*) to store images (*imagines*) which represented the information one wished to retain, allowing one to recall information and knowledge at will. Quintilian's account of the architectural mnemonic technique (Yates 19) demonstrates the key role of architecture in memory, as it underscores a sense of active construction and functionality applied to space in the remembrance of information or experience. This technique requires the person to imagine or remember a building, and to mentally anchor or 'place' the figure of speech or image to be remembered in the individual rooms of the buildings. These rooms would be revisited by the orator as he makes his speech; the sequence in which he moves would ensure the order of his points.

Due to connotations of technique and construction, architecture is the basis of the disciplinary character of academic knowledge and the classification of information in Knowledge Management systems of organizations, both in its abstract and physical form. Under the employment of the art of memory, architecture begins as a mental prosthetic derived from its concrete form used for remembering information, and later becomes a physical apparatus to materially project and control inner knowledge. This building-based art of memory resurfaces in the Renaissance in the form of the Hermetic memory theatre of Giulio Camillo, a small building which aimed to contain all the divine knowledge and wisdom of the world in the form of actual corporeal signs. However famous, his work was never complete, but his quest to "[mark] out divisions of memory" (qtd. in Yates 133) through his theatre indicated a shift in thought where the Hermetic man believed that the magical ability of his memory and imagination allowed him to understand and grasp aspects of the world. This control over these aspects then became outwardly manifested in art and

architecture. This architectural apparatus became internalized again with the ascent of the scientific method in the 17th century developed by philosophers such as Descartes and Francis Bacon for the purposes of scientific investigation, where the collection and ordering of facts and observation became precursor to methodical taxonomy and classification (Yates 368-389). The memory building evolves to become the scientific model -- the memory theatre becomes the museum collections of natural history, and the images in our memory evolve to become data housed in the memory folders of computing technology.

Hence, we see the concept of architecture reflected in the construction of the systemic code, most commonly embodied in the digital algorithm and computing protocol. Protocol is the organized concretization of knowledge and information into standard, ordered forms, enabling knowledge to be applied in other contexts. Self-reflexively aware of the conceptual role of architecture, architects have now extended the skill of architectural design to conceptualizing and constructing abstract/informational structures of different kinds, what some might call ‘software’, instead of just the ‘hardware’ of buildings and edifices. This assumption of architecture as conceptual structure and order applicable to varied contexts is reflected in contemporary avant-garde architect group Archigram’s declaration that “people are walking architecture” and their assertion that there is “a symbiotic relationship between human behaviour and architectural hardware.”¹⁸ And in the introduction to Virilio’s *Speed and Politics*, Benjamin Bratton states that “[t]oday *information is architecture by other means*, framing and contouring the relative motility of social intercourse”(16). In recent years, the term ‘discourse architecture’ has been used to

¹⁸ From *Video Notebook 1972*, reproduced in *Archigram* edited by Peter Cook, p 119.

describe the design of environments which allow people to connect with other people through networked computers (Sack 243). In this sense, the principles behind the work of architecture remain, while the materials it uses evolve.

Architecture can be considered as the meta-discourse of any instrumental medium that extensively facilitates Man's interaction and control of his environment. It is the abstract act of conceiving a structure which orders certain aspects of the environment towards fulfilling a function, and it has always reflected the character of the network by combining various aspects together. In its most obvious case, the design of a building consists of a negotiation between varied intersecting perspectives and considerations (e.g. political, social, economical, logistical, etc.) that must be ordered to accomplish the goal of constructing the building in actuality. Placed in the context of the physical environment, architecture has always been adaptable and relational, always dealing with change and flow. Although architecture was one of the instruments which had enabled Man to replace his nomadic hunter-gatherer way of life with the sedentary arrangement of settlement, it has always responded and made changes to itself in relation to the vicissitudes of nature. Architecture also has to accommodate the concerns of human activity, which includes economic and cultural activities of production and play. Virilio argues that cities are essentially areas which perpetuate "habitable circulation" (qtd. in *Speed and Politics* 10), and this sense of circulation has continuously accelerated, culminating in the ongoing development of network technologies. What Speaks suggests of the flexible disciplinarity and adaptability of architecture can be regarded as a natural response to the demands of its current environment.

Due to the synthesizing nature of architecture, architectural knowledge has always been interdisciplinary in character, for the work of architecture does not entail just the techniques of building, but also takes into account knowledge of various aspects of the environment. Vitruvius emphasizes this as he states, “the architect should be equipped with knowledge of many branches of study and varied kinds of learning, for it is by his judgement that all work done by the other arts is put to test” (5). Architectural theory reflects this, as it describes and organizes the practices of architecture towards specific ends or outcomes. Also, in claiming to offer “alternative solutions based on observations of the current state of the discipline, and new thought paradigms for approaching the issues” (Nesbitt 16), it often draws from other forms of knowledge outside of the discipline of architecture. Architectural theory itself is a form of mediation -- an imported means of organizing architectural practice through the intentional instrumental use of theory, some of which is appropriated from French philosophy. K. Michael Hays notes in *Architectural Theory Since 1968*, the mediated, constructed nature of cultural production as “[it]...can no longer be expected to arise spontaneously, as a matter of social course, but [it] must now be constantly constructed, deconstructed, and reconstructed through more self-conscious theoretical procedures” (x). He demonstrates this point by appropriating literary critic/political theorist Fredric Jameson in his use of the term ‘transcoding’ to describe architectural theory as “the *invention* of a set of terms, the *strategic* choice of a particular code or language, such that the *same terminology* can be used to analyze and articulate two quite distinct types of objects or ‘texts’, or two very different levels of *structural reality* (italics mine)” (x). The code, or the set of terms, is a deliberate construction which synthesizes aspects of two different objects by providing an overall framework of a common structural reality applicable to both, hence allowing the objects to

become interoperable. Hence, the post-critical suggestion for the appropriation of managerial thought or “open source intelligence” is entirely plausible, if not, in character, with the discipline of architecture.

Thus, while critics object to the application of knowledge economy/network-centric strategies by the post-critical architects and the OTRI on the grounds of a lack of criticality, it could also be argued that they are merely applying an architectural response. The adaptive logic of architecture also constitutes the logic of the network, depending on where one targets and draws the limits between the notions of ‘architecture’ and the ‘network’, and how one might describe the relationship between architecture and the environment. Despite this ambiguity of definition, what is clear from the debates is that the nature of architecture (and the network) is militaristic in both its physical and theoretical forms, as it reflects a combative quality arising from irreducible paradoxes. In the next chapter, I will discuss this nature of combativeness with regard to the operational, projective qualities of architecture, and describe its logic as militarised thought.

Targeting, Criticality and its Limits

The aerial photo lay on the table like a deceased dinosaur thrown out of its habitat by some primary force. Fifteen pairs of somber eyes concentrated on a dark square on the lower right labeled BALATA. Aviv, commander of the 35 Para Brigade, cut the heavy silence. "Reliable information indicates that armed insurgents have moved recently from Nablus with the intent of establishing a base in the Balata refugee camp. Central Command wants us to go in and uproot them!"

"Ooh," mumbled Amir, the tall, fair-haired commander of Battalion X. "We have not done that since 1982, and, as I recall, we were not particularly successful on that occasion."

"Well," responded Aviv thoughtfully, "there is always a first time in war. Our real problem is not attempting something new but rather freeing ourselves from a myth that has been debilitating state militaries for the last two centuries. We have to invent a new pattern of action. I have worked out an idea that you may find relevant to the problem. If we apply critical thinking, we may have a chance of formalizing the subversive."

The above extract, published in Harper's Magazine in 2006 as an article entitled "Discipline and Punish", is taken from Dr Shimon Naveh's text "Between the Striated and the Smooth: Urban Enclaves and Fractal Maneuvers". As head of the Operational Theory Research Institute (OTRI), former Brigadier-General Naveh trained soldiers from the Israeli Defense Forces (IDF) in "operational theory",¹ employing ideas in written texts such as "Between the Striated and the Smooth" as military doctrine. In the text, Naveh narrates a scenario based on the actual maneuver conducted in the city of Nablus on 3 April 2002, fictionalizing the command meetings that had taken place before their attack. What seemed to be a description of a standard war room scenario unfolded into an unconventional operation, led by Brigadier General Aviv Kokhavi, then commander of the Paratrooper Brigade. The maneuver of 'inverse geometry', part of the strategy of "walking through walls" ("LT" 53), saw the

¹ Operational theory is a technoscientific discipline of military theory which theorises the operational level, the level in between strategy and tactics. According to military theorist Edward Luttwak, "it is at the operational level that the ongoing command of all the forces involved must unfold, and above all that is the level of the battle as a whole with all its adventures and misadventures" (112).

Israeli units “mov[ing] within the city across hundred-meter-long ‘overground-tunnels’ carved through a dense and contiguous urban fabric” (“LT” 53). The aim of the maneuver was the targeted killing of certain high-ranking political leaders and key fighters of the resistance who were “saturated” (“LT” 53) within the buildings of the city. The city had turned into a warzone, as the entrances to the Kasbah and the adjacent Balata refugee camp were barricaded and the main avenues of access were booby-trapped and lined with explosives.

The maneuver was part of Operation Defensive Shield, an Israeli military operation against Palestinian militant groups which attack Israel over the recognition of Palestinian political sovereignty and the right to define the urban territorial borders of the Gaza Strip and the West Bank. It can be described as a maneuver of “‘asymmetric’, ‘informal’ or ‘new’ wars” (Kaldor qtd. in *CWT* 3) which replace the precedence of conventional warfare for most militaries. These wars are characterised by the conceptualization of domestic populations as targets for attack, leading to “ ‘security’ ‘impos[ing] itself as the basic principle of state activity’” (Agamben qtd. in *CTW* 4). With the Palestinian enemy employing tactics such as the planting of suicide bombers in Israeli urban areas and the firing of Qassam rockets into Israel by Palestinian militant groups who use Google Earth to identify Israeli targets (Chassay) the IDF become engaged in a clear case of ‘netwar’, urban warfare conducted by decentralized groups of terrorists employing the use of network technologies. These wars pose new challenges to hierarchical state militaries, as these enemy groups now bear tactical advantage from their organizational flexibility and ability to escape detection.

The OTRI's work emerged in this context of "irregular warfare"² which requires the military to defeat an intelligent enemy that is constantly responding to their moves and changing its form. It attempts to "innovate a new pattern of action" through the adoption of "critical thinking" based on a framework grounded on architectural/critical theory. This framework embodies the notion of architecture as 'design intelligence', espoused by architecture-academic Michael Speaks, which has contributed to the definition of post-critical architecture. In his discussion of 'design intelligence', Speaks references the US military's idea of learning, as suggested by the United States Secretary of Defense during the War on Terror, Donald Rumsfeld: "[Al-Qaeda] learns everyday...It goes to school on you. It watches how you are behaving and then alters and adjusts at relatively little cost, relatively little time, relatively little training to those incremental challenges we make in how we do things" (qtd. in "DI" 12). 'Learning' is part of military intelligence -- a methodical process of responsive observation, collection and analysis of information which allows the military to predict and act according to the enemy's respective moves. Speaks appropriates this militaristic idea to describe the potential adaptability of architectural design, and particularly evokes the notions of creativity and innovation associated with this process.

While Speaks sees the emergent complexity of the competitive, volatile commercial sphere as architecture's key challenge, the OTRI have identified the emergent complexity of the insurgent enemy as their key problem, requiring the IDF to stay a step ahead of the enemy by preventing them from asserting control over the

² 'Irregular warfare' is defined as "[a] form of warfare that has as its objective the credibility and/or legitimacy of the relevant political authority with the goal of undermining or supporting that authority. Irregular warfare favors indirect approaches...in order to erode an adversary's power, influence and will" (*Strategic Plan 2007 – 2012* 3).

battlespace. Attempting to mimic the complexity of tactical movement generated by the insurgents, the OTRI conceptualizes the urban battlespace as a problem of architectural interpretation. As Kokhavi says in the article “Lethal Theory”, “This space that you look at...is nothing but your interpretation of it...[T]he enemy interprets space in a traditional, classical manner, and I do not want to obey this interpretation and fall into his traps” (55-56). In doing so, the OTRI “formaliz[es] the subversive” and breaks with traditional forms of military strategy and movement to defeat an enemy. The organisation’s desire for innovation has resulted in the adoption of Deleuze and Guattari’s ideas. The manoeuver to “walk through walls” was informed by Deleuzian ideas of “smooth” and “striated” space, with “striated” space identified as structured notions of space traditionally conceived by the military, and “smooth” space as space which is free for movement. The OTRI’s focus is to attain smooth space, which involves “transgressing boundaries” (“LT” 59). This is achieved with the IDF soldiers breaking holes in the walls of the civilian homes in Nablus in order to establish the freedom for them to move through the camp.

For the OTRI, this transgression of boundaries is not just intended in the physical sense (i.e. literally breaking down walls), but also in the conceptual sense with regard to the IDF as an organization, as the OTRI was regarded as a “subversive node” within its ranks before it was closed down. “Critical theory” was used not only as a means of deriving methods of urban warfare, it was used to critique and question the institutional thinking of the military, a move in line with the purported Revolution in Military Affairs (RMA),³ of which OSINT⁴ (which is also referenced by Speaks) is

³ The Revolution in Military Affairs (RMA) has been identified by Andrew Marshall, the Director of the Office of Net Assessment in the US Department of Defence as “a major change in the nature of warfare brought about by the innovative application of new technologies which, combined with

part of. However, this transgression of boundaries related to the rise of military institutions and think-tanks engaged in civilian academic knowledge has been regarded by academics as an undesirable foray on the military's part. The question of the legitimacy of this appropriation of civilian architectural/critical theory by the military arises: how, and why, does the OTRI use architectural/critical theory? Conversely, how appropriate is Speaks' own appropriation of the idea of military intelligence when it is applied to architecture? How is architecture related to the work of the military, and what is the relationship between critical thinking/theory, creativity and innovation that is evoked by both the OTRI and proponents of post-critical architecture?

In this chapter, I examine the nature of the OTRI's use of architectural/critical theory and provide an explanation as to how it has come to be used for military purposes. By outlining how architecture relates to the military, I explain how architecture and the military relate to the function of knowledge and the notion of 'intelligence.' The forceful mobilization of architectural/critical theory by the OTRI for purposes of warfare reveals a common militaristic aspect to architecture and thought: the operational logic of targeting which seeks to destroy or attain a goal through the establishment or the destruction of the boundary/limit. The boundary/limit is the basis of the paradox of criticality underscoring the presentation of thought which drives the "everyday war" of physical and political violence perpetuated by architecture. It divides thought into two conflicting but complementary modes:

dramatic changes in military doctrine and operational and organizational concepts, fundamentally alters the character and conduct of military operations" (qtd. in Gongora and von Riekhoff 1).

⁴ OSINT (Open Source Intelligence) is defined as "information of potential intelligence value that is available to the general public... Open sources include books, magazines, encyclopedias, Web sites, tourist maps, and atlases. Academic sources, such as journal articles and university professors, can also be of great benefit." (*TUAMCCFM* 82)

projective critical thinking -- a problem-setting mode which imposes new boundaries/limits, and is linked to creativity, innovation, adaptation and subversion; as well as reflective critique -- a mode which tracks the boundaries/limits emerging from a given event or phenomenon. The debates concerning post-critical architecture and the OTRI's work demonstrate the contrast between critical thinking and reflective critique, the inherent conflict of the paradox of criticality which constitutes the war at the boundary/limit, forming the basis of architecture and the network.

Architecture As A Continuation of War By Other Means

The most evident reason for the OTRI's adoption of architectural/critical theory lies in the urban nature of the battlespace, which accords with the concerns of architecture. While one might regard these affinities as superficial, there is a militaristic dimension to architecture which is often overlooked, and it manifests more fundamentally in the notion of the boundary or the limit. In its physical or abstract form, the boundary/limit is the point or line which indicates the possible or permissible. It enables freedom and movement by paradoxically providing security through defensive control and exclusion.

The notion of the boundary/limit, the basis of architecture and thought, belies a martial aspect in its assertion of safety. In the lecture "Building Dwelling Thinking," Martin Heidegger attempts to trace through etymology,⁵ the essence of architecture, and he identifies this in the notion of 'dwelling', which (according to the Old Gothic form *wunian*) is to remain at peace (351). Peace can be only attained when one is out

⁵ Although the accuracy of Heidegger's etymology has been commented upon as suspect, nevertheless, his arguments and definitions provide support to the analysis of key themes in this thesis.

of harm's way and safeguarded from danger -- this, Heidegger calls 'sparing.' While 'sparing' brings to mind respite,⁶ implied in this allowance of freedom are connotations of control and defense that naturally arise when one 'spares' something or is 'spared' from something, as a thing can only be left untouched or unhurt⁷ when one has control over the given space that has been trespassed.⁸ This control over space and its defense arise from the establishment of limits. The freedom to unfold Being is predicated by its preservation designated by the limit, also known as the boundary, "the Greek *peras*": "not that at which something stops but, as the Greeks recognized, the boundary is that from which something *begins its essential unfolding*" ("BDT" 356). Although Heidegger mentions that the limit does not 'stop' being from unfolding, it does implicitly prescribe a demarcation of space, as space only occurs or is "made room for" ("BDT" 356) by the installation or projection of limits.

The intervention of the boundary is at the heart of the relationship between the human being and the environment, as it provides the element of safety and certainty crucial to the establishment of space. Where the boundary is drawn, space arises as one is free to do whatever one desires because one is safeguarded, however this freedom is underpinned by defensive vigilance against threat or uncertainty. The notion of adaptation in architecture, which entails the assimilation of environmental elements by strategically positioning boundaries/limits through design, can be regarded as simultaneously defensive in nature while allowing interaction with the

⁶ "sparing, *vbl. n.*" The Oxford English Dictionary, 2nd ed. 1989, OED Online, Oxford University Press, 2 May 2010 <<http://dictionary.oed.com/cgi/entry/50232248>>.

⁷ "sparing, *vbl. n.*" The Oxford English Dictionary, 2nd ed. 1989, OED Online, Oxford University Press, 2 May 2010 <<http://dictionary.oed.com/cgi/entry/50232248>>.

⁸ As Heidegger notes, "[r]eal sparing is something *positive* and takes place when we leave something beforehand in its own essence, when we return it specifically to its essential being, when we 'free' it in the proper sense of the word into a preserve of peace" ("BDT" 351). In reminding his audience that there is a 'real' sense of sparing, he suggests another sense of sparing from which follows that one "does not harm the one whom [he] spare[s]" ("BDT" 351).

environment. The boundary is physically translated into the 'wall' which safeguards by separating the inside from the outside; the people 'inside' can only begin to act in peace when any elements from the 'outside' that threaten to stop them are kept at bay. Human beings bear the instinctual need to survive, and with the wall, architecture provides the means of doing so. The edifice is the physical embodiment of the human-oriented notion of shelter, a structural extension of the body that allows for the flourishing of human activity by protecting the human being from elements of nature and external threat. This extends to the notion of security with the establishment of the settlement, especially as the accumulation of agricultural produce marks the settlement as a target for attack and plunder. The physical boundary of the wall forms the dividing basis of a paradox of security -- freedom is founded on control and security, as security entails the elimination of threat and the minimisation of risk.

Just as the wall engenders the paradox of security with its divisive effect, on an abstract level, the projection of the boundary/limit forms the basis of a paradox. This paradox demarcates or divides an entity into separate parts (i.e. inside/outside), thus shaping our understanding of these parts into oppositional concepts. The isolation of one part from the other due to the division of the boundary/limit obscures our complete understanding of an idea, thus rendering the two constituent concepts simultaneously contrary, and part of, each another. The constituent concepts are thus positioned in a hinge-like relationship which divides and conjoins them into an 'either-or/and' configuration. Regarded as a force of violence from the way it delineates and separates the parts from each other, the boundary/limit renders the relationship between the concepts as war-like as their oppositional positions cannot be

resolved. This militaristic aspect of the boundary/limit is fundamental to our conceptions of knowledge and architecture.

The militaristic nature of architecture can be traced to its earliest incarnations. The story of the architectural boundary has always been a brutal one, drawing the physical and symbolic line between life and death. As the ancient Greeks regarded the landscape imbued with the sacred, any act of construction was a desecrating disruption, and the design of the city's boundaries was a means of reconciliation between Man and the gods, between "the identification of the self and of reverence for that which is outside the self" (qtd. in Waterhouse 100). Thus, as design became a means of worship and living with the gods, it was simultaneously an act of violence -- against the gods, and for the gods, drawing a line which demarcated these two entities while acknowledging their merging in the totality of human experience. Waterhouse, citing George Hersey, notes that the earliest architectural conventions were derived from bloody rituals of human sacrifice paradoxically aimed at ensuring the persistence of the cycles of life. The visceral violence imbued in these materials channeled towards the recreation of holistic experience, paralleled the abstract violence in the boundaries/limits of architectural purpose and proportions -- "a severed thighbone is a triglyph, a vertebra becomes an echinus, a skewer an obelisk, a spear shaft a column flute, a bone an apophysis" (Waterhouse 96).

While the ancient boundary cleaved life from death and the self from the gods, modern architecture's limits constitute the fine line between construction and destruction, permanence and temporality -- the paradoxes which underpin what architect Lebbeus Woods terms as 'everyday war.' Architects need to destroy in

order to build; post-WWII mass housing production was built on the wreckage of war, and this idea of construction arising from destruction has become especially true in the case of contemporary cities, where the whims and fancies of consumerism orchestrate the demand of property development in cyclical periods of booms and busts. Also, architects introduce “new forms of entropy into the existing environment” (“Everyday War” 49). For all the benign intentions that architects have for sustainability, environmental and social ecologies have been destroyed in the process of attaining material and space for building. As Woods says, “(the building of architecture) is by nature warlike in the violence of its clearing of a site” (“Everyday War” 51).

Not only is the act of building militaristic in itself, architecture is also warlike in its intentions. Traditionally, architects have been soldiers in the war of politics as they have been instrumental in enforcing political hierarchies. Virilio notes, “there is no such thing as a monarch without architect, whether to erect his tombs, pyramids, or places; the architect’s power is a major political power” (*Pure War* 217). The earliest cities were formed when Man settled in large populations with agricultural surpluses which could support the development of specialized industries and services (Benevolo 26), and political cultures developed from the institution of hierarchical systems distributing the surplus and resources within the city. Power was asserted in the city through the control of property and territory, which the architect managed by distinguishing ceremonial public buildings from private domestic homes through design. The city also had to be fortified architecturally to prevent erupting conflicts between sovereigns from disrupting the running order of production.

Considering at least half the world's population congregate in cities, architects and urban planners dictate the physical (and to a certain extent) the behavioural boundaries by which we live. They conceptually decide on how the city would be concretely structured by the form of buildings people might inhabit, and how the space of the city would be shaped with regard to human activity and resources. Thus, architects enact material and immaterial violence which we experience as effect, and wage war for and against our thought and our habitual practices through their plans of organization, which result in operations of construction and destruction, depending on where and how they draw their boundaries and raise their walls. As Woods says, "war is carried on all the time, though it is usually disguised by the conventional masks of normalcy, or sanctioned by institutions with 'pragmatic' credos" (*Radical Reconstruction* 25).

This sense of "everyday war" related to the militaristic nature of architecture was exposed in the September 11 attacks on the World Trade Centre Towers, highlighting the capacity – and complicity -- of architectural knowledge to enact symbolic and physical violence upon and within the civilian populace. Virilio observes that Mohammed Atta, one of the terrorists behind the attack, was an architect and that the attack was "planned with an architect's intelligence and a strategic understanding of the situation" with the first attack "target[ing] the foundations" (*Pure War* 216). The architect's understanding of construction also simultaneously highlights the weakest aspects of structure, providing insight into initiating its destruction.

The militaristic nature of architecture explains why Naveh sees an analogical connection between the discipline of architecture and the planning of the operational level of battle, likening the architect to the commander-in-chief (Feldman 2). Both converge as examples of targeting -- both identify specific outcomes and organize the environment and available resources to fulfill them. In the case of the commander, he conceptualizes the battlespace and organises his forces to achieve the outcomes of the battle, while the architect structures thought in the form of an ordered perception of its environment or situation as a target solution to a problem, producing it in the form of a drawing, a model or a plan. Both architecture and military operational planning exemplify targeting due to their common operational nature -- the architect's plan embodies executable thought which projects a result in the construction of an edifice, while the commander implements manoeuvres in order to achieve his outcomes. This will be elaborated as I examine the notion of the target.

Targeting As The Militarised Operational Logic Of Thought

While the analogy made between architecture and planning on Naveh's part reveals the similar militaristic nature of both entities, it also exposes the notions of intelligence and knowledge -- in this case, theory -- as force. Inherent in rational thought is a combative dimension which operationalises thought into action through the notion of the target. The target is manifested as an aim or a goal; it is the identification of an object which one proceeds to act upon, the 'intentionality' that philosophers identify as the basis of consciousness (Weber viii). It is derived from the hunt, where a hunter seeks to capture and/or destroy his prey or opponent. The logic of targeting is prevalent in the work of the military -- the expanded and institutionalized form of the hunt -- and the sense of projection derived from the

trajectory between the subject and object of inquiry is analogous to the projectile trajectory between hunter and hunted when the hunter takes aim, rendering targeting – and thought -- as militaristic. As Deleuze and Guattari notes, the difference between a weapon and a tool is that weapons “have a privileged relation with projection” (*ATP* 395).

Also, according to Deleuze and Guattari, “the very notion of the ‘problem’ is related to the war machine” (*ATP* 395). The problem, a key device of thought, is a mental form of the target as it defines an object to be understood and solved, and ‘intelligence’ often refers the information that is collected and directed towards solving it. By solving the problem, the subject attains command and control over the problem by eradicating it, and this distinguishes the processes of critical problem-solving as combative in nature. The critical thinking of the OTRI is grounded in projective problem-solving which frames the target Palestinian insurgents as literal problems, with their potential movement demarcated by the boundaries/limits of urban space. Critical thinking reveals creativity and innovation as destructive processes, as it promotes a new or improved method of thought or action by eradicating or modifying what has been identified as the boundaries/limits of the existing problem.

Behind the notion of projection is an operative logic which arises from the “close relationship between the function of the arm and that of the eye” (*Bunker Archeology* 43) -- the relationship between action and perception, as explained by the arm enacting a method of destruction according to what the eye identifies as the prey or the opponent and its judgment of the prey’s position. This reflexive relationship

produces a preemptive, responsive dynamic, as the targeted affects the actions of the targeting subject, and vice versa. This dynamic is exemplified in the etymological definition of the target as a shield,⁹ which suggests that the relationship between target-er and target-ed is transitive.¹⁰ The targeted is also known as ‘the target’, illustrating the conflation of the attack of the weapon used to destroy the target with the defense of the opponent itself. Thus, the subject and the object are closely interlinked through the processes of targeting. The hunter, wishing to assert command and control over the prey/target, predicts the actions and response of the prey -- the “force of the hunted animal” (*ATP* 396) -- and operates accordingly to realize the intention of destroying the prey/target. Likewise, the military considers the possible retaliatory courses of action the enemy might take and asserts command and control over its large complex mass through methods of organizational management in order to achieve the effective destruction of the enemy. This preemptive dynamic characterises the cultural logic behind architecture – the target is usually an aspect of the environment, with the edifice simultaneously defensive as it asserts control.

This relationship between action and perception – the arm and the eye-- in targeting is apparent in all forms of thought and knowledge, extending beyond the scope of the military into disciplines such as science and architectural theory/knowledge, intersecting with notions of order and structure as discussed in the previous chapter. The importance of perception in targeting correlates to the significance of vision in concepts of knowledge which accounts for the establishment of security and certainty; one can discern what the enemy or the unknown is as long

⁹ “target, *n.*” *The Oxford English Dictionary*, 2nd ed. 1989, [OED online](http://dictionary.oed.com/cgi/entry/50247194), Oxford University Press, 2 May 2010 <<http://dictionary.oed.com/cgi/entry/50247194>>.

¹⁰ “transitive, *a. (n.)*” *The Oxford English Dictionary*, 2nd ed. 1989, [OED online](http://dictionary.oed.com/cgi/entry/50256300), Oxford University Press, 2 May 2010 <<http://dictionary.oed.com/cgi/entry/50256300>>.

as one can identify or ‘see’. Concepts of knowledge and thought are presented in terms of sight, regardless of the divine or imaginary source of these visions. This is because the visual sense is often regarded as the most reliable external sense due to its “superior mimetic ability” (Tyler 158) in representing the veracity of reality. Stephen Tyler observes that there is a “hegemony of the visual as a means of knowing/thinking” (150), noting the categorization of aspects of ‘the real’ into visible substances and invisible qualities. Common notions pertaining to thought have etymological roots reflecting the visual; ‘idea’ comes from the Greek word *idein*, which means ‘to see’ (156). Theory, as suggested by its Greek etymological root *θεωρία*, is a mode of contemplation or viewing, metonymically connecting the physical act of seeing with the reception of immaterial insight and thought.

Theory is the abstract form of an optical apparatus which provides an ordered picture of reality. It is an organized mode of perception as it demarcates different components of a phenomenon through the process of analysis which institutes divisible boundaries/limits, and structures reality towards a certain aim: the achievement of a unified understanding of a given phenomenon or an object. It also suggests the simultaneous affirmation and collapse of the conceptual distance between subject and object, much like the work of the telescope. Etymologically reflective of targeting, it constitutes *tele*, a prefix of Greek origins that indicates the notion of distance, and *skopos*, the etymological root of the target. Theory, very much like a conceptual telescope, can survey and synoptically represent reality in a conceived totality from a vantage point of distance. The distance between subject and object is reduced, with the presentation of the object becoming understandable. Hence, the object becomes graspable and controllable.

The military's reliance on military doctrine and strategy, especially in the form of systems theory, and in the OTRI's case, architecture/critical theory, illustrates the significance of theory in aiding the military to organize its operations. Theory provides a coherent vision – or 'topside' – and through its interpretation, it enables the military to decide on its subsequent action. As Naveh says, "[t]heory is important for us in order to articulate the gap between the existing paradigm and where we want to go...Without theory, we could not make sense of different events that happen around us and that would otherwise seem disconnected" ("LT" 67). Likewise, in architecture, the discipline is clearly dependent on optical knowledge, as seen in Vitruvius' emphasis on perspective as one of the fundamental expressions of architecture (13). Architectural theory also provides a conceptual vision that generates possibilities for further action or development. According to Nesbitt, it replaces the reflective commentary of architectural criticism and historiography with a more dynamic, active thrust, whether interrogative (i.e. the incorporation of critical theory which "intends to stimulate change" (17)), or projective (i.e. in terms of prescriptive or proscriptive theory) (17).

As one can see from the effects of the visual aspects of theory, thought is also essentially performative, with the visual aspect of thought closely connected with an operative dimension, which is illustrated in the Indo-European etymological root of the word "concept": *kap-*, 'to take in hand' (Tyler 156). The concept is an abstraction of reality which takes the form of a mental image, allowing one to 'grasp' the identified aspect of reality. This relationship between perception and action is reflected in the foregrounding of representational techniques or media technologies in the etymological roots of words of thought, exposing technicity as the basis of

modern thought. The operations of the eye and the arm combine in kinetic knowing (i.e. ‘knowing how’ or knowing through doing, or knowledge from ‘the arm’) and mimetic knowing (‘knowing what’, or knowledge from ‘the eye’) (Tyler 164) to produce a particular target-outcome of behaviour or material output. As Tyler notes, the nature of knowledge, through the alignment of thought with *logos*, is problematised by the role of technology as it combines the creation of knowledge with its material articulation. The multiple derivations of *logos* associate thought with the physical act of reading and writing (i.e. collecting narratives, counting, reasoning) (Tyler 161); ‘notion’ is derived from *nōtus*, which means to “make a mark” (Tyler 156), and ‘abstraction’ is derived from the Latin word *tractāre*, which means “to make a visible mark such as furrow” (Tyler 156).

Judging from the building-based techniques of the art of memory mentioned in the previous chapter, architecture itself is an apparatus of mimetic-kinetic knowing, with knowledge as an outcome of thought concretely manifested in the material boundaries/limits of representational technology. In architecture, knowledge is specifically manifested in model buildings which were made of wax in ancient Greece (Coleman 2); these are now virtually rendered through computer modeling programmes. It is also manifested predominantly in textual forms, such as drawings and plans, which were perpetuated through the spread of printing in the 16th century, resulting in the widespread adoption of architectural practices in areas such as the fortification of castles and bastions in Europe (Ashworth 27). As such, the discipline of architecture cannot be considered without its textual prostheses.

Thus, it is *techne* which characterizes the militaristic aspect of thought in targeting -- more specifically, the technicity behind modern rational thought, with its connotation of *praxis* behind its operational logic and its finite end. Heidegger asserts that modern technology has changed in character from technology which, in essence, is a way of revealing (*QCT* 12). It has become more militaristic as it forcefully “challeng[es]” Being (*QCT* 21). *Techne*, the etymological root of ‘technology’ and ‘technique’, was defined as production which allows something to appear (“BDT” 361). The Greeks understood this as *poiesis* (the basis of poetry). This sense of ‘bringing-forth’ is evoked in Heidegger’s description in “Building, Dwelling and Thinking” of how a bridge brings a locale to life by connecting elements such as the banks of the stream under the bridge, and the movement of human traffic leading into the town or the city (“BDT” 354). In contrast, *techne*, in its modern form, now bears the meaning of *praxis* which suggests action (*MAACMT* 7) as opposed to production. Technicity now dictates and reproduces space under the standard boundaries/limits of geometric terms (i.e. *spatio/extensio*). Hence, while *techne* is the basis of technology, depending on the degree of assertion of command and control by the subject upon the object, the nature of the subject’s judgment, and the methods used in attaining its goals, *techne* could mean either tool or weapon.

The target is clearly militaristic as there is a directed application of control either by the subject or object in the eradication or the institution of the boundary/limit towards a presumed end. According to Deleuze and Guattari, the outward projection of control of the weapon opposes the tool which is more “introceptive, introjective: it prepares a matter from a distance, in order to bring it to a state of equilibrium or to appropriate it for a form of interiority” (*ATP* 395). This

distinction is made more apparent in the distinction between the notions of the *skopos* and the *telos*, as raised by Jean-Luc Nancy (Weber 7), the two notions which convey the meaning of ‘end’ which are prehistorically associated with targeting. The *skopos*, the Greek root of the concept of target, “presuppose(s) the external and prior givenness of its target, ‘a model given in advance, an original to be rejoined or recovered’ ” (Weber 7), while *telos* is something “ultimately internal... more entelechical (sic) than teleological” (7), with the end expressed as the most perfect realization of potential which occurs immanently. Revelation in *techne* has given way to action in its modern manifestation, especially in forms of scientific technology, reflecting more of an end associated with *skopos* than *telos*.

The increased assertion of command and control assumed by the subject in the production of thought is demonstrated by the epistemological shift from the internally contemplative ideal originally associated with *θεωρία* to the ergetic ideal of knowledge (i.e. knowledge as construction, or knowledge through doing) in modern rational thought which marks a shift from *poesis* to *praxis* in *techne*. Funkenstein identifies this ideal occurring in the seventeenth century, preceding the more economically-related Druckerian notion of ‘knowing as doing’ as well as the connective mechanisms of the network. This was the period in intellectual history regarded as the foundation of modern scientific enquiry, exemplified in the work of philosophers such as Descartes, who believed in the reproduction of models or forms of natural phenomenon through mathematics, and Francis Bacon, who declared that “science is power” (299) with its potential to dominate nature. This era of scientific enquiry was grounded upon metabasis, the transportation of mathematics into areas of science previously disallowed under the Aristotelian tradition. Once the limits of

mathematics could consistently account for the conception of change, the sciences were standardised and “[t]he ideal of a system of our entire knowledge founded on one method was born” (Funkenstein 6). The scientific method isolates a particular part of the world as the ‘target system’ (Sarkar and Pfeifer 741) which is captured and controlled through the construction of mathematically-based hypotheses and models that are accepted or discarded with the corroboration of empirical evidence or theoretical proofs.

Geared towards establishing certainty, the development of the scientific method parallels the development of military strategy and organization,¹¹ especially as reflected in the military’s adaptation of Hungarian scientist von Bertalanffy’s General Systems Theory as a conceptual framework in modern military planning and doctrine (*IPOME* 3). As military strategic theorist Colin S. Gray notes, “if the essence of strategy is instrumentality, the essence of instrumentality is predictability” (qtd. in Bousquet 10), and this belief explains the clear collusion of military and scientific ideals in this case. In architecture, the shift towards scientific thought was marked by the adoption of mathematical principles of geometry and numerical proportions in the early modern period, ushered in by proponents such as Claude Perrault, with “mathematical logic...substituted for metaphor as a model of thought” (Pérez-Gómez 6). These principles eventually developed into the standardized practices of architecture in post-WWII which arguably discarded architecture’s reconciliatory role in maintaining symbolic and physical harmony with its surroundings.

¹¹ In *The Scientific Way of Warfare*, Antoine Bousquet demonstrates the intersections between military warfare and science, outlining four regimes of technoscientific warfare: mechanistic, thermodynamic, cybernetics and chaoplexity.

As architecture became regarded as more of a rational endeavour, its militaristic brutality became sublimated into notions of efficiency and precision. Heidegger's 1951 lecture "Building Dwelling Thinking" could be seen as a critical response, or a critique of the increasing technicity in post-WWII architecture and building construction occurring at the time of his lecture. Revealing the etymological roots of the notion of building, he counters the instrumental aggression of architecture with a reminder to return to a more peacefully-oriented notion of building. The rapid reconstruction of buildings and houses in post-WWII USA, Germany and other parts of Europe demonstrated an accelerated, more forceful assault of boundaries/limits by mechanistic thought onto the environment. These boundaries/limits were technical and economic, and were deliberately institutionalized with the use of engineering-based, cost-reduction design and construction practices which tied the notion of building to a specific definition of assembly-line industrial production.¹² These architectural developments subsequently paved the way for the development of the network in the proliferation and expansion of cities, suburban areas and the infrastructural networks between them, leading up to the emergence of the city-as-target and the crisis faced in architectural theory and its debates.

Theory has become a targeting apparatus due to the constructive mechanisms of modern rational thought. Based on the projective/projected boundary/limit which engenders a specific *skopic* notion of an end that is conceivable and executable, modern thought not only renders architecture and architectural theory militaristic; its militaristic character pervades almost all aspects of modern life, as it is an

¹² A detailed examination of these practices is found in Avi Friedman's article "The Evolution of Design Characteristics During the Post-Second World War Housing Boom: The US Experience" from the Journal of Design History Vol.8 No. 2.

instrumental approach of thinking which is applied and operationalised in various contexts, apotheosized in the random connectivity of the network. Arising from the boundary/limit, the finite, short-termed *skopic* end opposes the end of *telos* which is inconceivable, as it is placed at a limit “beyond which there is no longer anything that this thing could still become” (qtd. in Weber 8). The *skopic* end is a product of criticality, a quality which results from the eradication and establishment of the boundary/limit. It is a quality that is manifested in the conflicting approaches of critical thinking/theory of the OTRI and the projective arguments of post-critical architecture, as well as the respective critiques that surround the definition of architecture.

The Criticality of Post-critical Architecture And OTRI’s ‘Critical Theory’

Criticality is a quality embodied in notions of criticism, critique, as well as critical thinking; it is demonstrated in the variety of positions taken in the debates surrounding the invalidity of critique in post-critical architecture, and the military’s use of architectural/critical theory as a tool of critical thinking outlined in Chapter One. As one can see from the various boundaries/limits instituted or eradicated with regard to the definition of architectural theory and its uses, criticality is the application of judgment to a specific phenomenon. It manifests itself in the establishment or application of rules or principles which demarcate an element by differentiating it from another. It also identifies an element’s particular strengths and weaknesses. It is a quality brought into effect by targeting as the boundary/limit presents itself as the target -- the *skopic* endpoint of attack or defense. The target is the decisive point where the object undergoes crisis or a transformative state, should

the object exceed (with the eradication of its limit) or fail to meet its limit (due to resistance or institution of new limits.)

Judging from the divisive lines drawn within the debates, criticality is broadly characterized by two oppositional approaches to thought: the first approach is projective, as exemplified by the post-critical/projective architecture camp and the “critical thinking”/“critical theory” of the OTRI. The second approach, exemplified by Critical Architecture, the Critical Theory of the Frankfurt School, and the arguments of academics such as Reinhold Martin, George Baird, Eyal Weizman and Stephen Graham, can be described as reflective critique. Demarcating the extents of knowledge in the form of boundaries and limits in his critiques,¹³ Kant provides some insight into the differences between these two approaches by drawing a distinction between the determining power of judgment and the reflecting power of judgment. According to Kant, the determining power of judgment subsumes the particular under the given universal (i.e. the rule, the principle, the law), while the reflecting power of judgment discerns the universal from the particular (*Critique of the Power of Judgment* 5:179 - 181). Under the projective mode of thought, not only are the limits (or the universal) of a given situation identified as the target, under which particular occurrences are subsumed, these limits and ends are anticipated and imposed upon the situation in order to meet the threat of complexity or randomness. On the other hand, the mode of critique outlines the conditions of possibility that a given phenomenon -- the targeted -- emerges from, extrapolating specific limits or principles with

¹³ According to *A Kant Dictionary*, Kant uses these terms to convey the extents of legitimate knowledge, with limits (Schranken) defined as ‘mere negations which affect a quantity so far as it is not absolutely complete’, while boundaries (Grenzen) ‘always presuppose a space existing outside of a certain definite place and enclosing it’ (P § 57) (84).

commentary or reflection, especially on contextual, ideological or socio-political concerns.

The projective mode of thought is embodied in the “critical thinking” of the OTRI which “invent[s] a new pattern of action”. This parallels the ‘design intelligence’ approach of post-critical architecture which emphasizes the role of (militaristic) intelligence in enabling design to adapt and innovate in response to environmental factors in the form of feedback loops, as illustrated in rapid prototyping processes such as versioning, where “vector-based information is used to create techniques adaptable to almost any scale intervention” (“DI” 16). Critical thinking is a process which tackles any problem of a given object (i.e. the aim) by replacing existing boundaries/limits (in the form of its conditions or its assumptions) which are deemed problematic with new ones. It is considered a process which generates creativity and innovation, either in the form of adaptation or subversion. The OTRI identify the assumptions behind the insurgents’ use of the battlespace and movement, which are then “manipulated in a manner that distorts both (the insurgents’) thinking processes and their modes of behaviour” (“BTSATS” 85). In the case of post-critical architecture, even though Speaks never explicitly defines ‘intelligence’, his reference to OSINT presents design intelligence as a similar approach, with its ability to “innovate by learning from and adapting to instability” (“DI” 16). It assumes control over current factors of production and practices of design and replaces existing methods and ways with new ones, “allow(ing architects) to manipulate the conditions under which designs and buildings are produced...(and) search for new opportunities that can be exploited” (“TFTAG” 77).

The preemptive imposition of new limits over existing ones in projective thought is clearly suggested in the term ‘problem-setting’ used by the US Military to describe the design process behind its counterinsurgency campaigns and operations. Distinguished from the notion of planning which is regarded as mere problem-solving, design “inquires into the nature of a problem to conceive a framework for solving that problem” (*TUAMCCFM* 139). The difference between planning and design lies in the idea that the designer imposes a completely new framework, while planning occurs within “an accepted framework” (*TUAMCCFM* 139). Aviv’s regard for the enemy as “a logical medium for systemic deliberation” in “Between the Striated and the Smooth” suggests that design is an approach which provides the unit with a preemptive sense of control over the situation. The enemy is regarded as a cognitive factor subsumed within the overall framework of the military strategy imposed upon the battlespace, because “unless [the IDF] construct[s] them as conceptual artifacts, [the soldiers] deprive [them]selves of the basic conditions for designing [their] own logic” (“BTSATS” 88).

Likewise, this notion of ‘problem-setting’ is implied in the idea of the diagram that is promoted by Somol and Whiting. Their citation of Rem Koolhaas’ example of the Downtown Athletic Club in *Delirious New York* that “alternatively enlists a vision of architecture as contributing to the production and projection of new forms of collectivity” (“NATDE” 75) suggests this notion of ‘problem-setting’ as it “imposes a particular form of conduct on a particular multiplicity” (qtd. in “NATDE” 75). While Somol and Whiting suggest that their Doppler-effect-influenced notion of design “acknowledges the adaptive synthesis of architecture’s many contingencies” (75) and allows for an interaction of the subject and the object in the “possibility of multiple

engagements rather than a single articulation of program, technology or form” (76), nonetheless, the notion of design still encompasses a constructed framework of a given end which “projects forward alternative (not necessarily oppositional) arrangement or scenarios” (76), regardless of whatever emerges more spontaneously. As Somol and Whiting assert in their editorial of *Log* magazine, they “believe that a return to the plan is the best shot for this kind of resonant or projective discipline...call[ing] for a specific – if provisional – end state, *the plastic*” (7).

Criticality for the OTRI as well as the post-critical architecture camp also suggests decisiveness and urgency in terms of attack or defense, particularly with the emergence of the threat or opportunity, which is analogous to the notion of the critical point or the critical state in thermodynamics. ‘Critical thinking’ can also be regarded as thought which identifies or results from a decisive point, especially in a situation of crisis (such as war or competition) where someone or something reaches its technical boundary/limit and substantially changes in state or outcome. It is much like the critical point, where an element undergoes a qualitative change in state under specific conditions or reaches a state where a singularity combines with other aspects in a system to produce another given entity. The notions of singularity and particularity – the point which something becomes differentiated -- are predicated on the boundary/limit, or the generalizing principle that informs (and is informed by) its emergence. As Kwinter notes in thermodynamics, “there exist parameters, limits, border or catastrophe states, and these always gather in basins around singularities” (24), and Peter Drucker borrows from scientific discourse the term ‘boundary conditions’ to refer to the minimum conditions to be satisfied before a business decision can be enacted. Drucker states, “[t]he more concisely and clearly boundary

conditions are stated, the greater the likelihood that the decision will indeed be an effective one and will accomplish what it set out to do” (*The Effective Executive* 109).

The identification of faults in the examination of a given phenomenon, argument or interpretation is correlated to the IDF’s precise identification of key enemy weakness which translates into the precision of maneuver. The OTRI’s use of theory against the military organization itself also suggests this notion of criticality. By emphasizing the “subversive”, Naveh’s use of the term “critical theory” reflects the intention to use the theory to attack and overthrow the assumptions of the military itself to “(free themselves) from a myth that has been debilitating state militaries for the last two centuries.” This myth is a reference to the Clausewitzian doctrine of *Vernichtungsschlacht* (*IPOME* 16), or the belief that military victory is attained through complete mechanistic attrition of the rival military force. Naveh replaces this myth with a doctrine of based on criticality – the notion of ‘operational shock’ (or ‘strike’) (*IPOME* 16), which involves selective attacking the enemy’s systemic vulnerabilities that would prevent the enemy from accomplishing its aim. As we have seen in Chapter One, post-critical concerns on architecture’s inability to adapt to emergent circumstances as well as commercial competition have generated criticism and attacks on the tenets of Critical Architecture, an architectural movement grounded upon the critique of architectural theory. The prefix of ‘post’ in the post-critical suggests the particular aim taken at Critical Architecture as a movement and its criticality, noting that it has outlasted its appeal and relevance, especially in times of crisis and opportunity.

This sense of selective decisiveness related to the imposition or deliberate attacking of limits is demonstrated in the way Naveh puts architectural theory into practice, as well as the way the post-critical camp conceive themselves in opposition to Critical Architecture. Naveh customizes architectural theory for military use by stripping away its Marxist dimension and directly applying the theory as manoeuvres. As he says, “[t]he disruptive capacity in theory...is the aspect of theory that we like and use...This theory is not married to its socialist ideals” (“LT” 70). Selectively choosing terms and concepts from the theories from Deleuze and Guattari, such as “smooth” and “striated” space, as well as Guy Debord’s “*détournement*”, Naveh separates the concepts from its original context, but not only does he avoid discussing them in their original conceptual terms, he has the IDF literally execute the terms as he defines them. “Smoothness” (as opposed to striated) for Naveh, indicates a borderless space, which the IDF produces by physically eradicating any identifiable borders or obstructing elements. Naveh suggests that he is enforcing his particular use of the theory as he says, “I use [Deleuze] in a very particular way, and I am aware that there are those who will not accept my interpretation” (Feldman 6). Although he seems to gesture towards the subversive context of the “critical theory” he uses, he seems more interested in imposing and destroying paradigms of operational thought than in examining human sociality or suggesting ideological resistance, as the term Critical Theory more commonly implies with its associations with the Frankfurt School. Naveh is clearly more interested in using critique in more projective, instead of reflective, ways.

The post-critical camp sees architectural disciplinarity conceived in terms of “force and effect” (“NATDE” 75), and targets the reflective, or rather, dialectical

character of Critical Architecture. The criticality of Critical Architecture usually sees architecture as an autonomous form engaged with its contextual dimensions which includes ideological aspects, with architecture as the “condition of being ‘between’ various discursive oppositions” (“NATDE” 73). However, Somol and Whiting argue that this quality has become lost in the arguments of Eisenmann and Hays, proponents of Critical Architecture, as they “[try] to short-circuit or blur their terms (of their oppositional or dialectical framework)” (“NATDE” 73). The reflective nature of the Critical “optical-conceptual model, whereby the subject could be distanced from the object and reflect upon his or her own subjectivity” (“OHTP” 6) is rejected by Somol and Whiting for the provision of a relationship which “does not predicate itself upon distinguishing either subject and object...but...an immersion from which new practices may emerge” (“OHTP” 7). Destroying specific boundaries/limits of subject and object associated with the critique of Critical Architecture, Somol and Whiting suggest an alternative definition of architecture which allows for more freedom and fluidity instead of the “prioritization of definition, delineation and distinction [or medium specificity]” (“NATDE” 76) in Critical Architecture. Post-critical architecture advocates a more abstract and flexible “definition [which] stems from design and its effects rather than a language of means and materials” (“NATDE” 75).

While the post-critical definition of architecture appears as more expansive, this definition selectively attacks specific boundaries/limits to do with ideology, openly acknowledging that the “failure” exposed by Critical Architecture to reflect on its own ideological conditions¹⁴ as “a new form of success” (“OHTP” 5). So while

¹⁴ My interpretation of failure is based on Cunningham’s reading of Manfredo Tafuri’s interpretation of “the intrinsic failure of architecture qua architecture to reflect upon the social conditions of its own institutional status and the divisions of labour sustaining it” (*Critical Architecture* 33).

post-critical proponents tout the flexible plasticity of design as “project[ing] a specific virtuality...that explicitly scripts and reroutes the material and behavioural protocols of the world” (“OHTP” 7), their definition of design also seems limited to architectural form, “encompass[ing] object qualities...[which] also includes qualities of sensibility, such as effect, ambiance, and atmosphere” (“NATDE” 75). These qualities of sensibility, though amorphously experienced, seem more bound to the architectural object’s materiality than its discursive or socio-political impact. Speaks’ articulation of the notion of intelligence illustrates the detachment of knowledge from its (ideological) context in service of survival and competition: “[T]oday knowledge is manifest as intelligence used to manage these organizations in a world where remaining competitive is literally a matter of life and death...No longer dictated by ideas or ideologies nor dependent on whether something is really true, everything now depends on credible intelligence, on whether something *might be true*” (“DI” 12). Design is constructed on the entrepreneurial imperative, with knowledge selectively taken and mobilized for its specific *skopic* aim, regardless of the implications of its original context.

On the other hand, reflective critique outlines the emergent conditions of possibility of a given phenomenon and its contextual effects and implications in the form of commentary or criticism, usually focused on its ideological or social impact. The Critical Theory of the Frankfurt School exemplifies such critique, with their work on the “Culture Industry” revealing the political, social and cultural effects of the industrialisation and commodification of culture in post-WWII US society (Kellner). Partly based on the critique of Critical Theory, the critique of Critical Architecture centres on an approach of “Frankfurt School-style negative dialectics” (“Critical of

What?” 105) which is adopted by architectural critic Manfredo Tafuri, theorist-academic K. Michael Hays, as well as Kenneth Frampton, whose “commitment to ‘resistance’ to consumer society has been...resolute” (Baird 2). Architectural academics George Baird and Reinhold Martin critique post-critical architecture by tracking the many versions and refutations of ‘criticality’ as they emerge in recent history. Concerned with the post-critical rejection of theory, Baird asks if the post-critical “will develop parallel models of critical assessment...which... [will] measure the ambition and capacity for significant social transformation of [architectural] forms” (21). Martin insists on critical engagement, attributing the failure of post-9/11 World Trade Centre architecture proposals presented in 2002 to “an active blindness to the historical conditions of which 9/11 was only one component” (“Critical of What?” 107).

Eyal Weizman and Stephen Graham adopt a similarly ideologically critical stance in appraising urban phenomena such as urbicide, the murdering of cities, which includes the military’s appropriation of academic theory and knowledge. While Weizman exposes the socio-political implications of the OTRI’s use of architectural theory by highlighting the damage inflicted by the IDF on the civilian population, Stephen Graham comments on the network of military institutes, theorists and think-tanks which form the operational foundations of OSINT. A geographer who writes on the relationship between urbanization and violence, Graham relates the observation that academic discourse is now used to euphemise and justify systematic repression and state terror (*Environment and Planning D* 1) after attending an urban conference organized by geographers filled with military researchers and practitioners who discussed methods of urban warfare. The opinions in his editorial in the journal

Environment and Planning D reflect a desire to “expose the dark, obscured terrains” (2) of state killing, implying that the criticality of academic inquiry and research should be directed towards identifying problems which affect humanity.

Despite their oppositional differences, both critical thinking and critique are complementary modes of thought and reflections of criticality, generated from either side of the boundary/limit underpinning the paradox of criticality. Although the post-critical position rejects critique, it is not incongruent with the critical as Hays points out, “projective vocations are inseparable from negative practices; both are part of the critical project” (*Manifold* 88). As we shall see in the next chapter, due to the transitivity of targeting, there is a dynamic of contestation between these modes which follows a reciprocal nature as each mode responds to or from the other -- critical thinking creates a solution in response to reflective critique, while reflective critique derives its object from the projected aim of critical thinking. The “formalization of subversion” of the OTRI occurs because of the emergent threat of insurgent activity, while the Frankfurt School had aims that “sought new strategies for political change, agencies of political transformation...that could serve as norms of social critique and goals for political struggle” (Kellner). Even within Critical Architecture itself, there seems to be multiple differing notions of criticality depending on what is being aimed at; alongside more Frankfurt School notions of criticality, the criticality of Peter Eisenmann’s ‘autonomy project’ focused on challenging the internal assumptions of architecture’s aesthetic dimension instead of emphasizing its potential for political reflection (“Critical of What?” 17). The boundary/limit is generated through contestation, and thus it is not fixed. Viewing post-critical architecture as more of a “rhetorical flourish” (*Manifold* 87), Hays

regards its emergence as the latest development of a dynamic of argument between architectural theorists.

However, like the other critiques, Hays implies there is more at stake to post-critical architecture than a mere battle of words as he sees post-critical architecture as “consumerist and complicit in its abandonment of critique and commitment... [and] also managerial and instrumentalist in its blank and reified technologism” (*Manifold* 87). As we can observe from the employment and promotion of projective critical thinking by the OTRI and proponents of post-critical architecture, theory and knowledge are operable due to the logic of targeting, while the critiques suggest that this leads to ideological and socio-political repercussions. In the final chapter, I explain how the tension between the conflicting modes of targeting constitute the militarised dynamics of the network, presenting societies as modulatory interfaces of intelligence, and network-informational cities as battlespace. I also explain in the case of the ensuing Kokhavi Affair, why it remains necessary to maintain the existence of critique especially in defense of the academic sphere; and in the face of processes of destruction and reconstruction that are often executed in the name of flexibility and flow.

Criticality and the City: Targeting Walls

“The problem with the prevailing discourse of architectural criticism is the inability to recognize there is in the deepest motivations of architecture something that cannot be critical.” – Rem Koolhaas (1994)

“As soon as one thinks about the boundaries and limits of a discipline or a practice, or about the ideologies necessary to engage that discipline or practice, one is thinking critically... There has to be a provisional ground of ideology from which ‘to project’.”
– K. Michael Hays, *Manifold*

Israeli architect-academic Eyal Weizman, in examining the IDF’s practices of spatial manipulation and control in the Occupied Territories in his book *Hollow Land*, provides a projection of the global city in the future: a city under the siege of urban warfare. The architectural complexity of the area is a reflective example of how cities might develop in the wake of the War on Terror (9). Weizman notes that the weapons used by the IDF to colonise the Palestinian population now include methods commonly associated with managing the flow of civilian immigration -- “settlements, checkpoints, wall and security measures” (9) – which are now extensively mobilized to combat terrorism in other cities worldwide. He also notes that those who exercise power in controlling the territory not only consist the Israeli government and the military; they include “a multiplicity of – often non-state – actors” (*HL* 5), who contribute to what he terms as “structured chaos” (*HL* 5), rendering the city as the grounds of contestation between multiple practices and aims. In his depiction of the area, physical walls become immaterial with territorial borders instituted and destroyed at a rapid rate, according to the will of the many parties who lay claim to the order of space.

While the unique history of the Occupied Territories has contributed to its complicated territorial situation, the area nonetheless shares a point of commonality with the global city -- its status as an area enabling the circulation and interaction between multiple groups of people grounded upon urban infrastructure such as housing structures, telecommunications and transportation networks. With these urban structures clearly utilised for military intent, the case of the Occupied Territories fully exposes the potentiality of the city as a battlefield and literally reveals networks as connected collections of multiple military targets. Weizman's description of the Occupied Territories as a "laboratory of the extreme" (*HL* 9) is apt as it presents urban space as the grounds for scientific experimentation, an expression of militaristic rational thought brought into effect by targeting. As we have seen in Chapter Two, architecture is inherently militaristic with its logic embodied in the notion of targeting which perpetuates an "everyday war". Here, we see the logic of architecture performed on certain boundaries/limits of architecture itself: civilian boundaries/limits of architecture come under attack and are replaced by invisible conceptual boundaries/limits under a state of emergency, allowing the military to seize control over the environment. Architecture becomes a strategic mode for conceptualizing any form of space; its form is constantly changing according to military requirements, with soldiers destroying walls and entire levels in houses to carve tunnels, and adding walls and edifices as blockades. Architecture also becomes subject to various uses: the civilian home becomes a means of trapping an insurgent enemy. But as these civilian boundaries/limits become arbitrarily destroyed, the case of the Occupied Territories reminds us that these boundaries/limits separating the civilian from the military spheres have always been variably placed in history, depending on the agent which enacts or reflects the target.

The situation in the Occupied Territories lies towards the extreme end of a trajectory that describes the development of the city as a space shaped by militaristic targets, beginning with the wall or the boundary. As military philosopher Carl von Clausewitz states, “War is an act of violence pushed to its utmost bounds” (103); and the case of the Occupied Territories exemplifies this axiom in the blatantly militaristic use of its space by its various actors. This sense of violence is inherent in each city, due to the militaristic logic underlying its architecture and networks, which becomes exposed in the work of open terrorist attacks or the eruption of physical, socio-economic/political disasters. Clausewitz also states, “as one side dictates the law to the other, there arises a sort of reciprocal action, which logically must lead to an extreme” (103). The logic of war is based on a contest between two responsive forces which escalate the conflict towards an end in an attempt to achieve victory. In Chapter Two, I have introduced these forces in modern thought as the contesting modes of criticality: critical thinking and critique. As we will see, this contesting dynamic between the two modes is based on an inherent transitivity in targeting, as suggested by the target which simultaneously refers to the projected aim and its reflective defense -- the subject and the object – giving rise to the sense of reciprocity mentioned by Clausewitz.

In this final chapter, I explain the configuration of the network-informational city as a literal and metaphorical battlefield by providing a brief critical account of the development of the network as the latest manifestation of the contesting processes of targeting. In the previous chapters, I have explained how the logic of targeting forms the basis of the discipline of architecture, and of scientific rational thought which is employed by the modern military in its strategy. By tracking the development of

military strategy, I demonstrate the evolution of the network through the development of the target in its most literal form. The logic of targeting is also found in aspects such as governance, urban planning and avant-garde aesthetics, and by discussing the intersections of these areas with the military target, I show how these aspects collectively contribute to the separation and conjunction of the civilian and military spheres which form the ‘city-as-target’, the latest incarnation being the ‘laboratory’ of the West Bank. By highlighting the oppositional interaction between the modes, the flow of networks is revealed to be a result of disrupted, contested projections instead of smooth movement, and the spaces generated by networks as bordered spaces of complexity instead of borderless ones.

As the contestation of targeting generates the constant eradication and establishment of boundaries/limits which maintain the impression of smoothness in the notion of flow, there exists an invisible set of politics behind the architecture of networks. The exercise of projective critical thinking in network design can become a technology which “unwall[s] the wall” (*HL* 208) -- targeting can destroy boundaries/limits while maintaining the impression that these boundaries/limits are intact. While the mechanisms of critical thinking provide an impression of flow to the network, they do so in a manner which simultaneously eradicates existing boundaries/limits and constructs other multiple and invisible or immaterial boundaries/limits which might prevent movement or flow into other areas and/or engender new problems. Also, although critical thinking might be initially responsive to conditions or limits identified as problematic, it might fail to account for any unanticipated response or implication resulting from its enactment, due to deflection or challenge from other targets. In describing the dynamic of contestation behind

targeting, I highlight the countering need for critique alongside the promotion of critical thinking. Critique is needed to track or defend the boundaries/limits that critical thinking destroys in its assertion of movement in order to preserve or enclose certain spheres of freedom, as one needs to be mindful of the socio-political implications of the application of critical thinking.

The Transitivity of Targeting And The Contestations of Thought

As explained in Chapter Two, targeting is dependent on criticality and is characterized by two modes of thought: critical thinking and critique. The development of the network *qua* the development of the target is a result of a contesting tension arising from the interaction between these modes. This interaction can be described in terms of an engagement between two warring forces, with each aiming to predict and respond to the moves of the other in order to achieve victory, either by attempting to attain advantage in battle with the assertion of attack or by evading or resisting the other's attack. Due to the transitivity of targeting, while these modes inherently oppose each other, they are both equally valid and reciprocally predicated upon each other, simultaneously reflecting the same idea of criticality.

The contesting tension between modes is perhaps best expounded in the thought of Foucault and Deleuze, which provide the inspiration behind network-centric notions featured in the work of the OTRI and the arguments posed with regard to post-critical architecture. Foucault asserts the connection between knowledge and power,¹ and introduces a militaristic notion of knowledge in explaining the combative

¹ As Foucault says, "The exercise of power perpetually creates knowledge and, conversely, knowledge constantly induces effects of power." (P/K 54)

dynamic between contradictory positions inherent in relations of power, where resistance is regarded as “an irreducible opposite” (*HoS* 96). Referencing Nietzsche, he notes that knowledge is like “a spark between two swords” (qtd. in *Power* 8), and that “[c]onflict, combat, the outcome of the combat, and, consequently, risk and chance are what gives rise to knowledge” (*Power* 8). Deleuze promotes a similar position to Foucault by acknowledging this militaristic aspect of theory, regarding it as “necessarily an instrument for combat” (“IAP” 208), especially as it becomes mobilized for political action.

For both Foucault and Deleuze, the thought and knowledge they produce result from reflective responses to their objects of enquiry which provide ideological resistance by disrupting the projection of natural continuity in existing bodies of knowledge, “the theoretical totalization under the guise of ‘truth’” (“IAP” 217), by positing other possibilities. Conceiving knowledge as a spatially-oriented ‘history of limits’ (Elden 95), Foucault regards the application of philosophy as a “*limit-attitude*” (*EST* 315) which “transform[s]... critique conducted in the form of necessary limitation into a practical critique that takes the form of a possible crossing-over [*franchissement*]” (*EST* 315). In conceiving his analyses of power relations as the tracking of boundaries/limits from the enactment of mechanisms, decisions and statements spanning across various sectors of knowledge and society, Foucault’s use of the *dispositif* exemplifies the notion of criticality as it draws emergent connections surrounding a given phenomenon as a “sort of...formation which has its major function at a given historical moment that of responding to an *urgent need*” (*P/K* 195), providing an alternative history which has been excluded from official view. According to Deleuze, the deliberate construction of theory provides disruptive

retaliation against the domination of a particular truth as he notes that “(a) theory does not totalize; it is an instrument for multiplication and it also multiplies itself” (“IAP” 208).

Both Foucault and Deleuze’s critiques of power highlight the transitivity of theory and show how the subject and object – target-er and target-ed – affect each other as each asserts agency in relation to the other, demonstrating theory as “broken, subject to *changes in direction*, bifurcating and forked, and subjected to *derivations*” (*Two Regimes of Madness* 343). Foucault reveals knowledge as grounded upon a relational basis by showing how its presentation is dependent on the strategic position of the subject which usually obscures the object’s oppositional voice or agency. He exposes the apparently established boundaries of institutional knowledge (e.g. medicine, psychiatry and madness, etc.) as contestable ones by highlighting the perspectival subjectivity behind their construction, proposing alternative accounts of knowledge in those areas in an “*insurrection of subjugated knowledges*” (*P/K* 81). Deleuze, in conceiving theory as both an “instrument for multiplication” while being able to “multiply itself”, also highlights the transitivity of theory by implying that theory can be specifically directed by a subject towards attacking the dominance of projective truth, as well as result from a reflection upon the circumstances of its emergence. Deleuze states that theory produced under critique can also be utilized in other fields. The direct translation of intentionality behind the assertion of thought no longer exists, rendering theory as “a box of tools” which “has nothing to do with the signifier” (“IAP” 208) and gains practical credence when “it can erupt in a totally different area” (“IAP” 209).

The tension between ‘totalizing truth’ and the alternatives that Foucault and Deleuze present is analogous to the tension generated between the modes of projective thought and reflective critique, which is attributable to the transitivity of targeting. This tension constitutes the creative productive space – the boundary/limit itself -- between the appropriation of disciplinary knowledge by the OTRI or the destruction of it by the post-critical camp, and the knowledge generated from the resisting critiques against these developments from academics such as architect-academic Eyal Weizman and Stephen Graham, and architecture academics such as Reinhold Martin and K Michael Hays. Transitivity in targeting enables the appropriation and/or the misappropriation of a given notion due to the mobilization of theory according to the individual aim, thus producing a multiplicity of uses and meanings. This explains why the post-critical camp, as well as the OTRI, are able to appropriate Deleuze and Foucault’s thought for their particular use while others might disagree with their intentions. This creative tension accounts for creativity and innovation instead of the projective force of critical thinking alone, as without obstructing resistance or the affirmation of boundaries/limits, thought lacks the grounds from which to project or to project to. Conversely, the existence of projection provides the countering impetus for the production of reflective critique.

As these modes of thought reciprocally challenge each other in the conflict of aims, the contestation between them generates a series of alternatives which seek to trump and counter the other. This build-up of tension could be described as *surenchère*, “an increase of existing conditions but also the raising of stakes” (“TVOHCTAE” 63) which changes the form of the target itself, and accounts for the shifting and multiplication of boundaries/limits as they become erected and destroyed.

Military strategist Basil Liddell Hart explains the nature of this dynamic best when he states, “in war every problem, and every principle, is a duality” (330), and that “the absence of an alternative is contrary to the very nature of war” (331). According to Hart’s examination of military history, although the strategy and tactics of battles have changed over the years, victory in war has been consistently attained with an approach of indirectness which targets the weakness of the enemy or its lack of psychological readiness (Liddell Hart 5). The continual drive to maintain military advantage by increasing speed and flexibility intensifies and transforms the manifest form of targets and battlegrounds with ever-developing technology and tactics. As the contestation between the modes of targeting in thought parallels the logic of warfare, I provide an account of the development of the military target in relation to aspects of governance, urban planning and avant-garde aesthetics. In doing so, I demonstrate how the dynamic of *surenchère* shapes the network by destroying and constructing the boundaries of the civilian and military spheres, such that the city becomes a battleground, the ‘city-as-target’.

The Development Of The Military Target: The Emergence Of The Network

The Internet comes to mind as a definitive example of network technology and although the invention of the World Wide Web has been commonly credited to a civilian engineer, Tim Berners-Lee, the origins of the Internet can be traced back to military research projects initiated in the 1950s - 60s, undertaken in university research centres, known collectively as the military-industrial complex. The Advanced Research Projects Agency Network (ARPANET) is commonly recognized as the predecessor to the Internet, and although ARPANET was a product of collaborations between engineers and scientists from different sectors of society, the

project was funded and managed by the US military. As a result, Janet Abbate argues that “the design of both the ARPANET and the Internet favoured military values, such as survivability, flexibility, and high performance, over commercial goals, such as low cost, simplicity, or consumer appeal” (5). Like the Internet, much of the contemporary network technology employed by both military and civilian users, such as global satellite systems, was developed from military research on automated computing systems undertaken during the Cold War.

Contemporary network technology bears the “imprimatur of militarization” (“ТВОHCTAE” 61); and the Internet is only one of the more recent developments in a long history of technology shaped by military strategy and concerns. The military-industrial complexes of Eisenhower’s era exemplify the erasure of boundaries between the civilian and military spheres during the Cold War, suggesting that the military sphere has subsumed the civilian sphere. However, it can be argued that just as freedom cannot exist without security, the civilian sphere cannot exist without the military sphere. Both spheres are predicated upon each other to constitute the modern sovereign state. The notion of civilian governance can be etymologically traced to the concept of targeting in the form of the guardian who keeps watch from the *skopio*, the lookout or the watchtower. The idea of *episcopy*, the administration of civic duties, is derived from this notion of targeting which relates to overseeing (“Just targets” 11). Thus, civic administration and military activity are interdependent in the creation and maintenance of a sovereign state, and the institution and destruction of boundaries between these spheres are applications of the same militaristic logic of targeting. One of the most evident boundaries between the civilian and military spheres is the military convention not to attack civilians. This has been historically traced to a belief

that cities should not be attacked (Ashworth 113), however, this boundary is the first to fall in cases of internal threat, insurgency and Total War, along with changing practices of warfare, as well as socio-political developments and urban expansion.

Consistently, developments in military strategy and technology affect the socio-political developments of the state, and vice versa. Clausewitz famously declared, “[w]ar is a mere continuation of policy by other means” (119), and we see that the converse is also true. One of the reasons why political power was centralized in the hands of the monarchs in feudal Europe was that siege warfare was becoming increasingly complex, becoming such that it required greater financial, organizational and technical resources to conduct. As the European monarchs were the only ones who could afford to produce cannons that could win wars, the burghers of towns struck alliances with them instead of the nobility, which eventually led to the consolidation of their political rule (*TAW* 107 – 108). The French Revolution and the Great French Wars in the turn of the 18th century saw the establishment of a French republic and the emergence of the democratic citizen, marking the conjunction of the civilian and military spheres in the form of the citizen-soldier. As these international wars were partly sparked off by the political threat posed by the French Revolution, these political developments in France were also reinforced by the demands of warfare which required massive numbers of men. Instead of relying on professional, paid soldiers, Napoleon increased his armies with national conscription (*levée en masse*) in the 18th century by framing military duty as a socio-political obligation to defend the state. Thus, as J.F.C. Fuller notes, “the musket made the infantryman, and the infantryman made the democrat: power to kill, and therefore, to enforce equality

at the bayonet point was the essence of the question [behind the rise of democracy]” (33).

Thus, the form of the military target parallels the form of the civilian target, and the placement of the boundaries between the military and civilian spheres become destroyed and instituted according to contestation between the concerns of various actors and groups responding to circumstances over time. While the military target is a result of a “continuous dialogue” (qtd. in Ashworth 17) between the development of weapons technology and the science of fortification (Ashworth 17), it is not only shaped by military concerns; it shapes, and is shaped by socio-political factors pertaining to the milieu, with two concerns maintained as constants: the development of speed, and the advantage of surprise through flexibility created by the generation of alternatives. The Great French Wars marked a turning point where siege warfare was replaced by more mobile modes of mass and manoeuver warfare, fed by the influx of citizen-soldiers into the army. While architecture has always been the first line of defense in the form of fortified city walls or fortresses in siege warfare, technological advancements in artillery which improved upon the range and impact of ballistic propulsion (Ashworth 45) left formerly impregnable walls defenseless. Also, while siege warfare required armies to sustain a superior numerical advantage over the enemy (*Supplying War* 41), the logistical difficulties in maintaining forces engaged in a protracted test of endurance made siege warfare an increasingly unattractive option. Instead, these massive armies were directed towards overwhelming enemy forces in open battles. Thus, the singular, stationary target of the city’s fortified walls gave way to the multiple, mobile targets of coordinated masses of soldiers. As fortress walls

became obsolete and armies grew in sheer numbers, the location of battle shifted from fortresses/city walls to open areas.

Napoleon's military innovations introduced dynamism into warfare by increasing its speed and territorial range, as well as the number of military targets. As mentioned earlier, Napoleon's policy of conscription increased the strength of his armies. From the 17th century, armies were organized in formations of disciplined masses moving with clockwork precision, and under this doctrine of massing (*Swarming* 13-16), military forces aimed for the attrition of the enemy. Victory was claimed by destroying as much of the enemy's military forces and resources, instead of the conquest of territorial space (*Supplying War* 40). Napoleon replaced massing at the turn of the 17th century with the more effective doctrine of manoeuvre, establishing a system which saw forces subdivided into self-contained, strategic units (*TAW* 121) and attacking selective groups that determined the cohesion of the enemy's forces -- 'the decisive point', or rather, the decisive 'joint' which is both "vital and vulnerable" (Liddell Hart 99) -- with multiple coordinated movements (*Swarming* 17). By dispersing his forces, Napoleon could surprise the enemy by directing individual units to execute different manoeuvres based on the intelligence that he received at any given time. His troops could also move far more quickly to cover a larger territorial area in battle as well.

As military warfare was conducted away from fortresses and cities, the city became the subject of reflection in discourses to do with the governance of society in the 18th century. Foucault notes that there was growing concern in the 17th -18th century over the regulation of individuals in a newly emergent social formation --

society: the population of people within a given territory which operated under a social contract with its government instead of feudal rule. Questions to do with architecture and urbanism were raised in political discourse to reflect upon issues regarding the institutionalization of control over the general population of the nation as the city was regarded as a model for the rest of the country. Just as we see the emergence of the multiple and mobile target which gave rise to a new systemic complexity in warfare, modern society was regarded as a systemic entity that was “a complex and independent reality that ha[d] its own laws and mechanisms of reaction, its regulations as well as its possibilities of disturbance” (*Power* 352). The complexity of this new reality manifested in the emergence of chronic problems in the city which included epidemics, collective social discontent and crime. This meant that the dense urban population had to be regulated to contain the spread of these problems.

Baron Haussmann’s spatial reconfiguration of Paris in the middle of the 19th century is a clear example of the governing authority’s use of urban planning as a means of targeting the city’s economic, socio-political problems, and controlling the urban population. Haussmann’s plan of dividing Paris into sub-areas under a functional whole reflected the belief that “the complex totality of Paris [was] better controlled by an organized decentralization and delegation of power and responsibility to the twenty *arrondissements*” (Harvey 112). By expanding transportation and communication networks, Haussmann sought to manage the economic crisis that beset Paris in 1853 by diverting the excess capital generated by the urban economy into encouraging further circulation of capital (Harvey 110). He tackled problems of hygiene by instituting sanitation and sewerage systems, viewing urban planning as a scientific and mechanical act of surgery (Harvey 260). The large

boulevards carved across the heart of the city were intended to increase the circulation of the Parisian population, but were also linked to barracks that allowed troops easier access into areas to prevent urban rioting and the recurring threat of revolutionary activity, a legacy of the French Revolution (Ashworth 98). Urban planning processes seemingly mirrored that of a military operation, with the civilian conceptualized as an internal hostile target.

The extension of transportation and info-communication systems in cities in the 19th century paralleled the increasing reliance of the military on such systems in warfare, anticipating the eventual merging of both civilian and military systems towards the end of the century. In 1859, von Moltke the Elder, the Prussian military chief of general staff, shaped the planning of the Prussian civilian railway network when he became part of the state committee of railways, which contributed to the subsequent success of Prussian military mobilization efforts in the wars leading up to WWI (*TAW* 159-160). Also, as the reach of urbanization spread to regions through trade and socio-economic processes of colonialisation, the frontiers of war multiplied between the European powers and within their colonies in areas of governance and military control. As Weizman mentions, French North Africa was the region which produced the first urban warfare manual, *La Guerre des Rues et des Maisons*, in 1849. Responding to the events of the 1848 French revolution, Thomas Bugeaud, the commander of the French expeditionary force, enacted tactics of “counterinsurgency” in Algiers, which included the destruction of villages and the expansion of roads, as well as the building of civilian settlements in order to control the native population in all aspects (“BTSATS” 81).

However, as Naveh asserts, although Napoleon's dynamic manoeuvre had set the precedent for innovation in modern military strategy, the popular adoption of Clausewitz's theory of *Vernichtungsschlacht* by subsequent armies in history culminated into a conceptual impasse in the development of military strategy in WWI (*IPOME* 16). Armies, adopting this principle of the 'battle of destruction', assumed that battles were won by achieving complete physical destruction of the enemy with linear manoeuvres² which was an ineffective belief. The increasing systemic complexity of warfare, compounded by the use of extensive railways and communication systems, meant that full frontal annihilation was costly and untenable. The circumstances of battle would give way to another paradigm shift in military strategy -- operational manoeuvre -- which would change the form of the target.

Instead of multiple masses of targets concentrated in linear mobile formations, under operational manoeuvre, the military target became more selective as armies planned their attacks according to the operational level: the intermediate, interactive level between strategy and tactics. As armies began to conceptualise the enemy force as a complete system guided by its aim, they regarded the key to victory as the penetrative disruption of the opposition's aim by identifying and striking at areas of structural and systemic weakness in successive or simultaneous moves, instead of focusing on complete quantitative annihilation (*IPOME* 18). This could be accomplished in various ways; for example, by slashing strikes which would fragment a coherent military force into disjunctive parts (*IPOME* 19), and by inflicting 'operational shock' by launching a force critical enough to overthrow the enemy's mass centre (*IPOME* 19). This was usually achieved through the coordination of

² Naveh provides military arguments as to why operational maneuver does not emerge until the beginning of WWII in chapters 2 to 4 in *IPOME*.

various groups (which later included airborne forces) acting with synergy in a complex environment, “deliberately generating a dynamic manoeuvre that would suit both the universal principles of tactical combat and the specific circumstances of the relevant engagement” (*IPOME* 172).

While the military target became more selective, its categorical definition expanded to include what was regarded as civilian. Ever since the French redefined the military in the 18th century with conscription, military mobilization not only referred to the mobilization of men under national conscription, but also encompassed the mobilization of the economic and industrial resources of the nation. By the time of WWII, all civilians, including the female population, were integrated into the military system by serving as labour to produce these resources, effectively becoming military targets as well (*TAW* 163). Civilian business practices also reflected an increasingly militarised character as rational scientific thought was applied to industrial production. The preparation and waging of war had become a national administrative and logistical exercise geared towards efficiency by coordinating and standardizing labour practices in the production of resources, such as the assembling of firearm weapons. These practices provided the inspiration for the scientific management theories of industrialist Frederick Taylor (De Landa 106), and modernist and avant-garde architects subsequently adopted these theories from the turn of the 19th century into the first half of the 20th century.

Inspired by Taylorist methods such as time-and-motion study and the division of manual tasks, avant-garde and modernist architects in Europe saw architecture as “a science driven by method, standardization, and planning” (Guillén 1). Scientific

management was ideologically appealing to these architects as it espoused mechanistic order, organisation and efficiency which could be applied to the chaos of social problems through the design of infrastructure and urban planning. Le Corbusier was a seminal architect who believed that architecture could be revolutionized by practices of scientific management which could reform society towards a utopian end. In his manifesto *Towards A New Architecture*, he declares that “[s]ociety is unstable, cracking under a state of things upended by fifty years of advances that have changed the face of the world more than the six preceding centuries” and proposed that “[m]achines will lead to a new order of labor and rest” (157). Recasting architecture as machine, his projects, such as *Ville Contemporaine* and *Plan Voisin*, aimed to address issues such as the growing slum areas in France and the destruction of housing areas after WWI, by regulating the work-life habits of the population through the installation of modular, high-rise, prefabricated housing. Under Le Corbusier, the city was seen as a totalizing technological locus that affected almost every aspect of human life. It was “a masterful shaper of its surrounding geography, topography, demography and sociology” (Schwarzer 240).

The term ‘avant-garde’ itself is of military import as it originally referred to the foremost part of an army,³ and in the 20th century, experimental avant-garde aesthetics embodied the logic of the target. Artist groups such as the Futurists and the Constructivists utilised militaristic/scientific metaphors and analogies in their work either to project meanings and myths onto the future, and/or to critique the past in response to their social context. The notion of oppositional criticality became more overtly instrumental as *techne* became defined as *praxis*. The earlier avant-garde

³ “avant-garde, avant-guard”, *The Oxford English Dictionary*, 2nd ed. 1989, *OED Online*, Oxford University Press, 15 Apr. 2010 <<http://dictionary.oed.com/cgi/entry/50015351>>.

artists had battled the ideology of consumption in bourgeois society and the pervasive influence of scientific rational thought, by carving a hermetic space for art under the principle of *'l'art pour l'art'* in the 19th century (hence separating aesthetics from science and philosophy). However, some of the later avant-garde groups would oppose this principle by appropriating figures of scientific rational thought to support the view that art should be socially and politically engaged in a revolutionary sense. Le Corbusier had read Taylor's ideas when he fought in the trenches in WWI (Cuillén 64), which could explain why his architectural vision in the early 20th century was militaristic in nature, as suggested in his statement from his manifesto on urban planning, "Equipment: high command and army, machines and transportation, discipline – ALL EXACTLY THE SAME AS FOR WAGING WAR" (qtd. in "TVOHCTE" 65). Avant-garde artist and theorist Guy Debord would later harness the same militaristic impulse to challenge the strict urban order promoted by Le Corbusier with his explorations of psychogeography in the 1950s, "the study of precise laws and specific effects of the geographical environment...on the emotions and behaviour of individuals" ("CUG"). He aimed to create situations by bringing into effect concrete actions in the urban environment (through methods such as the transposition of maps of two different regions) ("CUG"), which would create new possibilities expressing the desires of the urban population, repressed by their habitual practices and urban settings. Although Debord employed his term in the context of aesthetic and cultural exploits, his description of psychogeography bears similarity to the principle behind military operational theory that soldiers create situations through operational maneuvers to exploit enemy vulnerability. Debord conceptualised devices such as *détournement* (which becomes mobilized by Naveh in actual military operations), "the reuse of preexisting artistic elements in a new ensemble"

("Détournement"), to wage a "civil-war" ("Détournement") on ideology, functioning as a "cultural weapon in the service of a real class struggle" ("Détournement"). Taking a particular element or object from its original context and placing it in another, Debord called for the constant destruction of existing boundaries/limits of meaning surrounding the element, and the creation of others. Applying the logic of the network to public culture and its libidinal unconscious, he says, "[t]he only historically justified tactic is extremist innovation" ("Détournement").

In the course of WWII, the multiple, mobile target had also become emergent and immaterial in nature, measured according to boundaries/limits of time alongside space. As military technology developed along the lines of maintaining speed and the advantage of surprise, emphasis was placed on precision and invisibility, leading to developments in radio communication technology. Warfare was now conducted on an immaterial level of information transmitted in the form of waves and signals. Such technology was crucial in ensuring victory as weapon technology (literally) reached new heights of technical sophistication which enabled it to escape visible detection. Bombers were a key technology developed and employed in WWII, and in order to prevent damage from their strategic aerial assaults, they had to be identified and intercepted. This was accomplished with the use of radar which worked according to the Doppler effect (invoked by Somol and Whiting), ascertaining the position of the enemy craft by noting the deflection of transmitted high frequency radio waves off its moving body. These technologies of detection thus led to the formation of an immaterial defensive wall, as well as the emergence of the notions 'target acquisition' and the 'target of opportunity'. Objects could now be detected, classified and tracked

in real-time by radar/sonar sensors, allowing for the spontaneous identification of targets emerging within an area that have not been previously marked out for attack.

With the advent of Total War in WWII, war was intensely fought between the material and immaterial planes. The physical and conceptual boundaries/limits between the different aspects of the military and civilian spheres were constantly eradicated and reconstructed in a modulatory cycle increasingly defined more by time than space, oscillating between the transitive ends of attack and defense. The city, generally regarded as the domain of the civilian sphere, became a literal battlefield. This was evident as intense bombing raids from the air destroyed civilian populations (the British bombed German cities in response to German blitzkrieg attacks on British cities), culminating in the atomic bomb attacks on Hiroshima and Nagasaki in 1945. The reality of these military attacks subsequently affected the city's architecture and its spatial organization. Historian Peter Galison attributes the emergence of the ideas of dispersion, decentralization and fragmentation in postmodernist architecture to the impact of bombing campaigns and the planning of the Army Air Force's Committee of Operations Analysis and the U.S. Strategic Bombing Survey in WWII. The bombing survey had initially focused on identifying potential economic targets in German urban spaces for bombing, however, after recognizing that the enemy could enact the same threat especially with the atomic bomb, they began promoting the dispersal and multiplication of American industrial and urban areas to deter the projected bombstrike of the enemy.

The network is thus the product of connections formed between dispersed points which were instituted to "remove the critical node" (Galison 28). The

information and transportation networks which were established in America during the 1950s - 60s between urban and suburban areas were the result of efforts by reflexive self-targeting American planners to preempt the destructive effects of an atomic bomb attack. Tracing the limits of the network in historical American WWII/Cold War military activity, Galison's critique reveals projective critical thinking as the reason for the dispersive shape of the network. This same logic permeates American developments of automated info-communication systems throughout the Cold War, beginning from the radar-based computational air defense system of SAGE (Semi-Automatic Ground Environment) initiated in the 1950s, to the C3I system in the 1960s (the predecessor to the C4ISR framework) which was conceptualised to provide "flexible response" that would allow the military to "rapidly [adjust] to unforeseen conflicts" (qtd. in Edwards 132). ARPANET was based on the idea of packet-switching, a technique which allows information to be dispersed to many nodes through multiple links, such that the transmission of information would still continue even if a node was destroyed. The notion of "survivable communications" (Abbate 9) continues to form the basis of the Internet today, as seen from the use of Twitter by civilians who were trapped in the November 2008 Mumbai terrorist attacks to convey their location and urgent requests for help (Bratton 336). Evidently, the freedom of opportunity to express oneself that is offered by these network technologies is always underpinned by the possibility of using these same technologies to counter a crisis or attack.

From the above account of the city as target, we see that the logic of targeting has shaped the development of the network and architecture of the city, its impact particularly exponential within the last three centuries. Functioning as the basis of

architecture, the processes of targeting have progressively destroyed and enacted boundaries/limits between the military and civilian spheres, time and space, building up to the emergence of the dispersive network. It manifests in the infrastructure of the network-informational city of today, framing what Deleuze terms as the “societies of control”, which replace the disciplinary societies of the 18th and 19th centuries that were grounded upon the clear separation of spheres, “the organization of vast spaces of enclosure” (“POSC” 443). The destruction of boundaries/limits from the application of projective critical thinking provides the impression of unlimited movement across different areas of society and areas of knowledge through the establishment of multiple connections. In areas of knowledge production, interdisciplinarity or flexible disciplinarity becomes the norm as the traditional boundaries/limits of disciplines are broken down and replaced by connective relationships, as seen in the convergence of network-centric notions of architecture, business and warfare. According to Deleuze, “[t]he man of control is undulatory, in orbit, in a continuous network” (“POSC” 446).

However, as Deleuze gestures, the impression of limitlessness that we derive from the network is also grounded in the opposing notion of regulation, the mechanism which enables control through the institution of limits. Using the analogy of the standardized code to describe the various boundaries/limits which permeate society, he notes that codes “mark access to information, or **reject** it” (“POSC” 445, emphasis mine). The society of control is subjected to the same imposition of boundaries/limits as the disciplinary society, however, these boundaries/limits have become more selectively and intricately enforced as they multiply between the physical and the conceptual planes, thus giving the impression of the absence of

boundaries, or the ease of surmounting them. Observing the developments of the city, for each boundary/limit targeted, new boundaries/limits are instituted in its place, generating reflective responses which resist attack or challenge the trajectory of the aim that could divert its outcome. Thus, the mass of targeting processes present flow as disruptive and modulatory, the product of the oppositional interaction between critical thinking and critique. The sense of freedom and limitlessness of accessibility that the network provides is paradoxically underscored by a sense of restriction and finitude affected by control, a feature which seems to have been downplayed in the rhetoric of post-critical architecture and practices of the OTRI.

‘Unwalling The Wall’: Constructing Invisible Walls

The contemporary city has become an interface that allows interaction between material and immaterial elements, accessed by multiple groups of people at any given moment. The quintessential urban experience is characterized by an engagement with both the manoeuvrable ‘hardware’ of physical infrastructural edifices which promotes movement and circulation, and the fluid ‘software’ of legislative codes, computing algorithms, psychological effects and real-time information, presenting the urban subject with an endless array of possible routes and options for action. The figure of the wall is no longer one of permanence but permeability; it is something regarded as easily destructible or bypassed. Eyal Weizman highlights how this is true with respect to the IDF’s exploits in Nablus: apart from soldiers breaking through the walls of homes to create spaces for movement, weapons of “‘controlled’ destruction” are now able to detect human activity behind walls with infrared technology, and engineers are now able to “remove one floor in a building without destroying it completely” (“LT” 74). The OTRI see the selective precision offered by these

methods and the use of architecture/critical theory as a more effective alternative to conventional warfare methods. Likewise, in the case of post-critical architecture, the recasting of architecture as the more fluid notion of 'design' seems to provide a more accurate means of representing the medium, as it describes the interplay of both the material and immaterial aspects generated in the experience of architecture.

However, in the act of targeting, when existing boundaries/limits are targeted and destroyed, other boundaries/limits are set up in their place which generate subsequent effects that might have a wider reach than intended, no matter how selectively one targets. The eradication of existing boundaries/limits might encourage flow for its target-er, however, the resultant boundaries/limits that are set up in their place might impede the freedom of access and movement of not only the target-ed, but also other multiple groups who are indirectly affected by the act of targeting. Although the IDF's direct targets were Palestinian insurgents, the Palestinian civilians were locked out in rooms while the soldiers conducted their operations, sometimes without the provision of basic living necessities (*HL* 194), resulting in the IDF inadvertently targeting these civilians.

A single act of targeting can also generate unintended and undesirable effects for its target-er, especially if another agent intercepts its outcome. Weber notes that "every target is inscribed in a network or chain of events that inevitably exceeds the opportunity that can be seized or the horizon that can be seen" (18), and this is exemplified in Clausewitz's reminder that despite all efforts to control a given outcome or a situation, there exists 'friction' -- "incidents take place upon which it [would be] impossible to calculate" where "we fall short of the mark" (165). In the

case of the UN Relief and Works Agency (UNRWA)'s reconstruction of Jenin, the decision undertaken by the humanitarian agency to widen the camp roads to manage the residential traffic tragically backfired when an Israeli gunner moving through the area in a tank shot down the UNRWA project director under the impression that the Briton was a Palestinian with a grenade (*HL 205*). Allowing the Israeli military to physically assert their dominance while reducing the socio-political autonomy of the Palestinian community in the area, this exercise of projective critical thinking had imposed invisible socio-political boundaries/limits while destroying formal physical ones.

In the attempt to go beyond existing boundaries/limits, innovation is also pursued in the form of subversion and transgression. This usually involves the destruction of selective ideological boundaries/limits while leaving the physical or formal boundaries/limits intact. This phenomenon accords with the idea of "ideological smoothing" ("ATMQA" 44) which is appropriated and described by K Michael Hays as "the process by which ideology creates a tight a fit as possible between different regions and between itself and social reality...[which] has the effect of occulting the reality that in fact, generated the ideology" (44). Appropriating the term "un-walling the wall" from avant-garde artist Gordon Matta-Clark, Weizman uses the term to describe the work of the OTRI and the IDF which resembles Matta-Clark's work of 'building cuts' made in abandoned buildings but turns the power of anarchitecture's critique on its head.⁴ While the physical frames of the buildings stand, the IDF's penetration of walls within homes shatter ideological

⁴ Matta-Clark's work could be seen as part of the *Anarchitecture* group's oeuvre. Part of the group's tenets included the following: "ANARCHITECTURE ATTEMPS TO SOLVE NO PROBLEM BUT TO REJOICE IN AN INFORMED WELL-INTENDED CELEBRATION OF CONDITIONS THAT BEST DESCRIBE AND LOCATE A PLACE" (qtd. in Walker 19).

boundaries/limits traditionally established by civilian rights. Somol and Whiting's charge for architects to become "experts on design's relationship to [socio-political] disciplines, rather than as critics" ("NATDE" 75) suggests architecture's commitment to ideological sensitivity while circumventing the need for architecture to be accountable in these same areas. Somol and Whiting limit architecture's scope to that which is "historically-defined", a scope which excludes "questions of economics or civic politics" ("NATDE" 75). By positing the term 'expert' to replace 'critic', Somol and Whiting attempt to introduce a more nuanced definition of the architect's role by isolating the scope of architecture and emphasizing its *relationship* with these factors, however this distinction also obscures the expectation that architectural expertise should directly *interact* and hence critically engage in these areas due to the already social and public character of architecture. Perhaps it is not enough for architects to think only about "how design may affect economics or politics" ("NATDE" 75), they would need to recognize that economics and civic politics affect design and that design has to directly respond to these concerns.

This consideration has led to architectural historian/theorist Daniel Barber to criticise post-critical architecture's "non-oppositional concept of social engagement for architecture" (245); he points out that post-critical architecture continues the tradition of Critical Architecture by focusing on formal architectural aspects in recognizing more ambient aspects of the architectural experience, despite purporting to engage in a multiplicity of social concerns. "In focusing on relationships within architecture," Barber argues, "they have missed the more compelling opportunity, that of destabilising the relationship *between* architecture and the outside" (249). Although conceptions of post-critical architecture trump projection and performativity as

essential to contemporary architecture, in order to assert their argument, they also rely on the same tactic of oppositional negation employed by their target (the more detached notion of critique) against their target. The rhetoric of post-architecture opposes the “optical-conceptual model” of Critical Architecture which establishes a reflective distance between the subject and object (“OHTP” 6); ironically, it also maintains a distance by eliding direct engagement with the socio-political factors of the context architecture is situated in.

The arguments of post-critical architecture and the work of the OTRI demonstrate the imposition of invisible boundaries/limits in the place of the boundaries/limits destroyed by their claims of interdisciplinarity and flexible disciplinarity. The arguments of post-critical architecture draw specific limits around their flexible notion of design while promoting a more ubiquitous applicability, and subsequent developments related to Weizman’s critique of the OTRI’s use of architectural/critical theory reveal that the boundaries/limits between military intelligence and academia are not as collapsible as they seem. The architectural/critical theory used by the OTRI could be considered as military OSINT (Open Source Intelligence) which differs from academic research, as it constitutes information which would help the military conduct its operations, thus suggesting the eradication of boundaries/limits between the military and academic spheres. The events of the Kokhavi Affair illustrate that while the Israeli military might have full access to academic resources, the Israeli academic community might not share the equivalent privilege of critiquing the military openly. Weizman’s article on the urban warfare strategy of the OTRI was due to be published in Israeli journal *Theory and Criticism* in 2007, however Weizman was led to withdraw his article as Brigadier

General Kokhavi privately threatened to sue the journal and its editor after the Chairman of the editorial board, Gabriel Motzkin decided to send the article to the IDF for their response (“The Kokhavi Affair”). Suggesting Kokhavi’s name be taken out of the article, Kokhavi’s lawyer states in his letter to the journal, “not mentioning [Kokhavi] in the article will certainly not detract from the ideas in it” (qtd. in “The Kokhavi Affair”), implying an imposition of a boundary/limit of anonymity that would detach Kokhavi from the question of acknowledging the public culpability of his actions. The silence that is brought about by the void of the article in the journal signals a curtailment of academic freedom; the absence of the article also removes such knowledge from public view, maintaining a semblance of regularity to the journal’s proceedings. In this case, the curtailment of freedom to challenge the practices of the IDF through public critique in the Israeli academic sphere suggests that the autonomy of the Israeli military to enact violence on the Palestinian population can continue unchecked and unquestioned.

Hence, while the workings of the network seem to provide an impression of smoothness and flow, there lies an invisible set of politics to its technologies. While the transitivity of targeting offers a sense of freedom in allowing a user to detach and attach any given element from one setting to another, often this sense of freedom is predicated upon implicit assertions of control which manifest in the form of the projective trajectories of critical thinking which territorialize space and time with the institution of boundaries/limits. One clear example of this dynamic is the hyperlink or the bloglink on the internet, where users are able to extend the reach of their personal presence into infinite grounds with multiple connections of addresses presented on a given webpage. The freedom and flexibility associated with the hyperlink are

dependent upon what media theorist/activist Geert Lovink and academic Ned Rossiter term as the “decisionism of the link” (“Dawn of the Organised Networks”). The blatant visibility of the bloglink hides the underlying machinations of power which is embodied in the positional nature of the distribution/(re)production of the link related to the authority of the publisher, as well as its reach to the audience via search networks and other websites. Thus, any decision not to link on the web can also mean exclusion while giving an impression of ignorance which contributes to the semblance of smoothness and flow of information.

This sense of smoothness to the presentation of information also occludes the underlying contestation that shapes each relationship or connection as it modifies or erases existing boundaries/limits. Although networks do not engage in “selective extension or rejection of network membership”, “discrimination, regulation, and segregation of agents happen on the inside of [the system]” (Galloway and Thacker 29). Beneath what seems to be the endless single totality of the Internet is the existence of numerous local networks connected by standard networking protocols (i.e. the Internet Protocol Suite, TCP/IP) and gateways, host computers which would connect and accommodate the differences between two or more network systems by translating different local packet formats of information (Abbate 129). Also, Berners-Lee’s HTML (Hypertext Markup Language) which first enabled the World Wide Web to display audio and visual media, constitutes a ‘format negotiation’ between different computers to allow for the exchange of information (Abbate 215). Hence, paradoxically, the global reach of the network is dependent on the connection of diverse local networks, each bordered by their own boundaries/limits. Bratton also points out that “certain political positions are built already into the hardware, not

allegorically but literally” (339), citing the example of the structure of the Intel chip which imposes a hierarchy of administrative accessibility that limits information access to a few users.

If freedom is generated by the destruction of boundaries/limits in targeting, freedom should also be produced through the ability to defend boundaries/limits, given that it is paradoxically predicated upon security. The transitivity of targeting allows the projection of one’s intentions onto a given object, but it also allows the resistance of another’s intentions. Thus, as projective critical thinking becomes valorized in network-centric notions and practices in architecture, business, military affairs and virtually everything else urban, there is a need to affirm the co-existence of reflective critique. As boundaries/limits of time and space become eradicated in the destruction of a building or a wall, or the refreshing of a page on the internet or the map on one’s GPS, it becomes necessary to remember that in the network-informational city, freedom is also defined by the need to track these changes as they become invisible and negligible. Freedom may suggest the ability to expand and move across spaces and time, but it is also underscored by the contrary need for preservation, the necessity to keep watch and guard over what might be possibly destroyed in the process.

Evidently, for the OTRI, there are limits to interdisciplinarity that sometimes cannot be breached due to the inherent resistance from within its ranks. It was disbanded in May 2006 when its key officers were deemed as ineffective, with complaints coming in from subordinates and rival factions that their theoretical framework was too confusing to follow (*HL* 213 – 216). And if criticality in

architecture has been subsumed by the influence of the media, it has also found a way to defend itself through the use of what some regard as its enemy, as seen in the example of Rice University's student publication, *Manifold Magazine*. The journal, which specifically "responds to Post-Criticality in architecture...attempt[s] to set in motion a reinvigoration of architecture theory" (5) by spreading its reach through "multiple media, including...a correlative website that allows for dialogic exchanges and formal online publishing" (5). As one can see from *Manifold's* strategy of utilizing the media to generate architectural critique, it takes a network to fight a network. Given the complexity of the urban context, with users and actors multiplying exponentially and armed with their own divergent targets, some grounds must be defended.

Conclusion : Towards what end?

“The future is a design problem.” – Matthew Murphy, “Glimpses of an Architectural Future”

In the essay “Of Other Spaces”, Foucault highlights the dominance of spatiality in our milieu. Calling it the “epoch of space”, Foucault sees knowledge conceived in terms of “juxtaposition...of the side-by-side, and of the dispersed” (22) running alongside our everyday experiences, which is like “that of a network that connects points and intersects with its own skein” (22). His statements reflect interconnections between conceptions of thought and material experience, organized according to a notion of space -- a theme which spans a long history in Western knowledge. Represented in geographical terms such as areas and grounds, knowledge is also organized according to architectural notions, embodied in the disciplines of academic knowledge and the classification of information in knowledge management, which become operational as infrastructural systems and protocol.

The crisis faced by architectural theory, as presented by post-critical architecture and the work of the OTRI, reveals these traditional interconnections between architecture and knowledge as manifestations of targeting. As we have seen in the previous chapters, through the institution and the eradication of the boundary/limit, both architecture and the network are expressions of the same logic of targeting, and given the pervasive reach of this operative logic, the modern urban experience effectively becomes a problem of design. Ideologically motivated activity has become “*programmatic*”, with terrorist organizations becoming “*design movement[s]*” (Bratton 332). However, the reality of the cityscape is far from the unified and organised state that the term ‘design’ implies. Benjamin Bratton cites the

term 'geoscape' to describe global space as the "contested terrains of contested terrains" (333), a haphazard multiplicity of changing immaterial and material topologies which encompasses the conflicting coexistence of terrorist and civilian projections cast by the utilization of the same networks. The totality of space can neither be determined nor fixed due to the plurality of intentions and reflections of various actors, and this generates questions on the possibility of creating systems of governance which are accountable to various socio-political concerns. Paradoxically, even as Bratton recognizes that "the forms and contents of the political is a metadesign problem" (340), he notes, "[t]he form of form, the morphogenesis of the world picture, is content that cannot be designed and designed for" (333). This problem pertaining to the organization of space, values and knowledge cannot be resolved.

Much of the problem (and solution) lies in the transitive nature of the boundary/limit which is indeterminable due to its hinge-like character. It allows one to act and/or to reflect, yet, as soon as it is brought into operational effect, it differentiates and divides. Geoffrey Bennington, reading Kant's Critiques, sees the boundary as a place of violence which is defined as absolute exteriority, otherwise known as contingency (449). It is a "place of judgment" (450); a faculty of knowledge in between the theoretical and the practical that "may when needful be annexed to one or another as occasion requires" (qtd. in Bennington 452). This definition prompts these questions: what constitutes the 'occasion' and its requirements? In events of crisis, this boundary reveals itself as problematic due to the ambiguous multi-directionality of its transitive state. Contingency and judgment are indeterminate qualities that only come into effect upon the identification of existing

boundaries/limits, however, they also allow opposing sides to draw their own irreconcilable lines. (The difference between science and art arguably lies in the nature of the boundary/limit drawn which would determine the thing/quality which a given object or occasion is contingent upon.) Thus, the definition of architecture (or design) and its effects depend on where one draws the boundaries/limits between architecture and media/network technologies, or between architecture and its greater context.

The transitivity of targeting has enabled the prolific generation of alternatives, and this unending state of provisional ends poses even more questions particularly related to the “city as target”. Samuel Weber has noticed the assumption of *skopos* as *telos* and asks, “[w]hat if the enabling limits associated with the *telos* were themselves made dependent upon the power to treat the other as *skopos*: target and targeter? What would this signify for an end that defined its *telos* – its *task* – as precisely as that of becoming a *skopos*?” (8) Besides misrepresentation and misintepretation, one of the most problematic implications of flexible disciplinarity, interdisciplinarity and the ability to multiply ideas across areas is that the increasing contingency of targeting belies the gravity of its resultant ideological and socio-political effects. While some might argue that discourse is largely kept to the rhetorical level, the mechanisms of targeting in the network-informational city and the knowledge economy promote a tendency to operationalise thought into action which produces significant effects and powerful consequences. As Thacker and Galloway notice, “a network is as much a technical system as it is a political one” (100).

Given the nature of the boundary/limit, it is difficult to ascertain what the best ethical position to take might be, with regard to the state of criticality in contemporary

architecture and theory. In response to the post-critical project and the divide between ‘go-with-the-flow’ projective critical thinking and the resistance of critique, historian and theorist Kazys Varnelis proposes ‘reflexivity’, an attitude which advocates reflectively discriminating the information coming in from the network and reorganizing it to create material to feed back into the network (*AEG* 155 - 156). According to Varnelis, “[r]eflexivity surpasses critique because it does not posit stasis or attempt to find an unimpeachable position. Where critique tears down, reflexivity builds” (*AEG* 156). His position attempts to accommodate the ambiguity between both critical thinking and critique, but instead it seems to replicate the dynamic of conflict between the two modes by negating one mode with the other in succession, albeit with a greater awareness of the growing speed of changing circumstances and contexts. By presenting critique as a mode that is separate and static, Varnelis falls back on dichotomizing modes of thought in order to present reflexivity as a valid alternative.

As our rational processes of thought are always already attuned to targeting, it seems impossible to go beyond the representational confines of the boundary/limit (as suggested from the particular boundaries/limits placed upon my own definition of the ‘post-critical’), and as targets multiply at an exponential rate, we should expect an increasing number of problems emerging from their varied outcomes. However, even though the possibilities of the network generate its countering impossibilities, the network’s impossibilities also give way to possibilities, beginning with the bifurcation of the concept of ‘possibility’ into the notions of realization and actualization (Kwinter 8). Placed within such a situation, it might be more useful for us to constantly examine the parameters of contingency, bearing in mind the processes of

reciprocity in the assessment of potential and risk.

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