

# NONMODERN REGIONALISM AND SUSTAINABILITY: THE CASE OF TWO CONTEXTS

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NONMODERN REGIONALISM AND SUSTAINABILITY: THE CASE OF TWO  
CONTEXTS (95 PP)

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With growing interest in sustainable practices in architecture, different approaches to sustainability have emerged. This thesis studies the Non modern perspective presented by Steven Moore, the challenges of redefining sustainable architecture as a storyline, and the practicability of this view in large scale sustainable projects which are largely based on Ecological Modernization. Recent developments in Ecological Modernization have brought about a vision of sustainable architecture in which social and cultural experiences are embedded. But the practices of large scale projects are still solely based on economic and financial concerns. The connection between theory and practice has significant role in the success of the sustainable storyline and therefore, the contradictions in the practice of sustainable large scale projects provide significant challenges in viewing them as Non modern practices. Although, social and cultural issues should be considered, we should not forget the role of economy and its contradictions in large scale developments. Non modern theory brings about several questions which might make sustainability practically unachievable in large scale projects, and therefore a utopian concept. While integrating social practices in architecture, we should not undermine the reality of what Ecological modernization has contributed in significant developments in different contexts.

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## CHAPTER I

### INTRODUCTION

In today's world, where we are facing global environmental issues, it seems more significant to understand the choices that we as architects can make and the challenges that we may face in this path. After decades of debate on sustainable development, there has not been a consensus on questions such as what can green architecture look like, how we can measure sustainability, and whether sustainable measurement programs such as LEED are enough to determine a sound architectural practice with environmental concerns in mind.

Steven Moore, a Professor of University of Texas in Austin, has an interesting hypothesis in this regard. He believes that the various solutions that are practiced should be celebrated, rather than trying to find the best strategy in the sustainability movement to go forward. He has brought up a notion of "non modern Regionalism" where he believes that sustainability should become a regionalist issue, and sustainable architecture should be tied to place.

This thesis is a study in non modern regionalism, and the place of ecological modernization within the theory and practice of the nonmodern perspective. Two large scale projects which employ the ideas of ecological modernization will be analyzed through non modern thesis to understand the position it takes in theory and practice.



## CHAPTER II

### NON MODERN REGIONALISM

#### Introduction

Although regionalism caught the attention of architects during 1980s and 1990s, proposals for regionalist architecture have been appearing in the architectural discourse since seventeenth century. The central notion to this discourse is the changing perspective towards place and technology. “Critical regionalism” is one of the significant notions within this movement. The importance of critical regionalism lies in its view towards place and technology- which unlike Modern and postmodern thought - is positive towards both elements.

Since the mid 1990s, the regionalist movement has faded. Steven Moore, a professor in University of Texas at Austin, suggests returning to ideas of regionalism and argues that “technology and place should be understood as the suppressed core concepts that are contained within regionalist architectural production” (Moore, 2001, p.130). He puts forward a “non-modern thesis” based on his critique of critical regionalism. To his view, the conflict rising from addressing principal concepts of modern and post modern thoughts in critical regionalism is what brings about non-modern regionalism. By suggesting a non-modern perspective, he intends to avoid the conflict towards the concepts of technology and place in the modern and post modern thought. Instead of returning to Heidegger’s thoughts on critique of modern technology, he addresses

contemporary literature from STS (science and technology studies) to “provide a sociological view of how technological systems are developed” (Moore, 2001, p.130).

In what follows in this chapter, first we will take a look at the history of the regionalism movement, and afterwards address Critical Regionalism briefly. This would lead to the concept of non-modern regionalism, and the situation of technology and place within the theory.

### History of Regionalism

The historical developments of regionalism theory have mostly been undocumented. The most comprehensive documentation of Regionalism is done by Vincent B. Canizaro, who has collected essays from the beginning of the 20th century towards the third millennium, all of which discuss, define, and critique the theory.

In situating architectural Regionalism, Canizaro believes that as a subset of architectural theory, it has withstood various movements from the Renaissance to the present. The most ancient origins of Regionalism lie in the Persian overland road system, the Hellenic "oikumene" model of governance and later Roman imperial practices of territorial management. Alexander Tzonis and Liane Lefaivre, have cited a specific Roman regionalism- that of Vitruvius, who's in discussing proper sitting of buildings speaks of natural relations between the qualities of a place and the health of its residents. He also associates the character and intelligence of people to their place of origin, which is not an acceptance of regional cultural variation- central to social and cultural identity- but a

"precursor to nationalism movements that would give regionalism part of its negative association." (Canizaro, 2007, p.30). It is important to note however, that Moore uses the essays of Tzonis and Liane Lefaivre- where they have put forward five stages of regionalism history- to argue that "the social construction of places is an entirely contingent event, not one determined by the structure of history" (Moore, 2001, p.133). To Moore the genealogy of regionalism put forth by Tzonis and Lefaivre is "a classically modernist teleology" (Moore, 2001, p.133) of which he is skeptical.

The theories expressed within the scope of regionalism are very diverse, and one of the issues which underlie the diversity of theorizations, is "resistance and response". From Lewis Mumford to Kenneth Frampton, Resistance has been a critical point in the Regionalist discourse. Canizaro defines this central element: "Regionalist Resistance can be political or representational, concerned with the maintenance of personal or local identity through form" (Canizaro, 2007, p.7) and he describes the dominant force in modern resistance as "the changing structure of society and the built environment under disinterested central organizations, industrialization, modern technology, and globalization." (Canizaro, 2007, p.7)

Another binary argumentation in regionalist theory is "imitation and invention", which is the relationship between the requirements associated with imitation and the desire for invention. Canizaro (2007) defines these two:

*Imitation is the direct taking of form, motif, detail, or the like and repeating it as faithfully as possible. Invention seeks precedents as inspiration for the creation of something new (p.7).*

He describes the need of imitation as to provide cultural continuity, while the inventive architect may only concern the essence or aspect, spatial or formal of the original form resulting in a more subtle and often profound design.

The last dialectic in regionalism is of tradition and modernity, which is linked to the struggle between necessity of cultural continuity and the desire of progress and innovation. Anthony Giddens defines tradition as “a means of handling time and space, which inserts any particular activity or experience within the continuity of past, present and future”(Canizaro, 2007, p.14). But the modern world, while trying to achieve a better quality of life, is moving the local social structures away from their local contexts by means such as Internet and communication technologies, transportation, and trade. According to Canizaro, Regionalism has been allied with both: Historicist regionalism can exhibit the conservative tendencies of tradition, while modern regionalism and critical regionalism believe in creating new form with "measured respect" (Canizaro, 2007, p.14) for traditional culture.

### Critical Regionalism

Although it was introduced by Alexander Tzonis, and Liane Lefaivre, Kenneth Frampton's version of critical Regionalism is best known. Frampton has tried to balance his theory between the modern critical theory and the post modern thoughts of Heidegger. He proposed Critical Regionalism as a tool to settle the conflict between universal civilization and local culture. He speaks of how local and direct experiences need to be considered but he is also critical of sentimentality. He has revised his theory, calling it

"liberative environmental practice" (Canizaro, 2007, p. 365) and promotes sustainability and landscape urbanism as key concerns "upon which a radically democratic environmental discourse could be based" (Canizaro, 2007, p.365). Therefore, these developments have turned the theory away from its former aesthetic, formal and style representations and shift the discourse of architectural regionalism into a subset of environmentalism.

There seem to be two main critiques against this theory; one is the fact that it is caught up in definitions of oppositions, which does not bring a resolution but conflict. The other widely criticized characteristic of the theory is how it is limited by aesthetic and formal notations rather than understanding a bigger context or giving a meaningful and stable definition of the complex overall contexts.

One of the critiques on the theory was made by Keith Eggner in 2002. Eggner has critiqued Frampton's use of Luis Baraggan as an exemplar of critical regionalism. He argues that the work of Baraggan, with its evocative use of color and form was an attempt to evoke sentimentality and an imaginary Mexican past, and not critically regional. He points out the critical regionalism is problematic as a post-colonialist strategy as it tends to get caught up in oppositions (space/place, architectonic/ scenographic, us/them, east/west...) which would ultimately create "Tensions" (Canizaro, 2007, p.394). He believes that this is more a process interested in conflict than resolution. Eggner suggests that we should go back to Hamilton Harris who wrote in 1958 that regionalism is a "state of mind" (Canizaro, 2007 p.394). Only by attending more to these states of mind, can we understand the richness of local discourses in their full complexity.

Tim Cassidy took a step further in his argument against the theory. In his article "Becoming Regional over time: toward a reflexive regionalism", he introduces the term "Reflexive regionalism" in which architecture is born out of awareness and time, rather than designed as already regional. He argues that Frampton's objection to nostalgic forms, and resisting commodification through creating forms that are not derived from vernacular or traditional typologies, creates a concept of region that is "a collection of self-referential objects instead of a complex contextual cultural web" (Canizaro, 2007, p.410). The works of architecture are reduced to "a set of formal relationships" that can be modified without any regard to the regional context.

He also argues that architectural regionalism cannot be limited by classifications and categories. There is not heterogeneous cultural region, and we should be looking at the collective landscape rather than specific styles; the landscape which consists of various styles and complex patterns. In Cassidy's opinion, buildings become regional through their interaction with the region and not their formal characteristics.

Barbara Allen also argues against formal attributions of the theory in her article "On performative regionalism" in 2005. In her belief, although the theory has mentioned cultural practices the authors do not go beyond a passing mention. She reminds us that a successful architecture regionalism should be more engaged in cultural practices and performances that give cultural identity meaning and life. She suggests two main concepts for the theory: "performativity" and Pierre Bourdieu's term "habitus"(Canizaro, 2007, p.420).

Steven Moore uses Critical Regionalism as the basis of his thesis on Non modern regionalism. He argues that the positive perspective of critical regionalism towards both place and technology is best served by non modern assumptions. Before defining the non modern thesis, it is best to first understand the modern and post modern thoughts on place and technology.

### Place

Geographer John Agnew argues that modernists have diminished the value of the traditional concept of place due to two basic reasons: first that they have confused “place” with “community”. In Agnew’s view, community in modern theory is to define both “a physical setting for social relations” and “A morally valued way of life”. He argues that modernists have failed to understand society as “a dynamic process that transforms, but does not abolish or invalidate” (Moore, 2001, p.130).

The second reason he gives is that in 19<sup>th</sup> century social scientists tried to project the path of history, and a “polarity of community and society” (Moore, 2001, p.131) was a shared theme of all the proposals. While society was known to be liberative, community was seen as being coercive and limiting. Agnew argues that the devaluation of place was mostly promoted by Marxists. On the value of place in modern theory he states that “becoming modern involves casting off ties to place and adopting an “achievement oriented” or “class conscious” self that is place less” (Moore, 2001, p.131).

Agnew offers three elements to understand the notion of place: location, sense of place and locale. Location is the geographic area which encircles the objective structures of politics and economy. By sense of place, Agnew intends to define a “structure of feeling”. This dimension of place involves the subjective realities that give a particular place “character” and “quality of life”. Locale is the in-between dimension of objective characteristics of location and subjective characteristics of sense of place. This becomes the core concept of place in Non-modern theory.

According to Moore (2001), locale “includes the institutional scale of living to which architecture contributes so much: the city, the public square, the block, the neighborhood” (p.131). By defining place at this scale Moore tends to avoid the conflict between a Marxist’s view of place and a constructivist’s subjective perspective. To Moore, “it is the “elastic” scale of all three dimensions, viewed from the mesoscale of the city-state, which best describes a place”. By understanding place from various scales, he intends to avoid the opposition between objective structures and subjective experience of place.

### Technology

Similarly, technology has been seen as physical in quality. In positivist theory, technology is seen as an “asocial application of scientific truths” (Moore, 2001, p.133) while in the view of postmodernists such as Heidegger, technology is understood as an “ontological practice” (Moore, 2001, p.133). In both views, technology is seen as



separate from society, while in STS theory (science and technology studies) technology is not only not far from society but it is a part of it. Sociologists such as Donald Mackenzie and Judith Wajcman have argued that there are three qualities within the concept of technology “human knowledge, patterns of human activities, sets of physical objects” (Moore, 2001, p.133). Moore (2001) uses the STS theory to understand technology as a “process of social construction” rather than returning to Heidegger’s ontological studies.

The importance in the three qualities put forth by Mackenzie and Wajcman, is the role of “human knowledge” and “human activities” in the concept of technology. The physical objects do not have the significance without the knowledge and expertise of humans who practice and engage them.

Figure 1 is the diagram Steven Moore (2001) uses to show the location of modernist and post modernist thoughts on place and technology and the view of non-modern theory in between the two. We should note a couple of facts on the Non-modernist view:

1. Modern theory tends towards the abstract and over- determined while sense of place tends toward the under-determined. (This is the relation of the outcome of events to structural conditions.)
2. Moore suggests that place and technology are both spatial concepts. He uses Bruno Latour’s term “technological network” (Moore, 2001, p.134) to argue that “technology” not only refers to physical objects, but also to “social networks that

construct a relation between human knowledge, human practices, and non human resources” (Moore,2001, p.134).

3. In the Non modern thesis, technology is best understood through geography rather than history. Moore (2001) argues that history “interprets reality as human events in time” (p.134) while geography “interprets reality as human events in space” (p.134).
4. An important characteristic of the dialogic between place and technology in non modern theory is the idea that places shape technologies and technologies shape places. As Moore (2001) puts it “it is a dialogue of cause and effect, means and ends” (p.134) He continues to define them as “ inseparable but contingent concepts that lead inhabitants of a place to a dialogic narrowing of cultural horizons” ( Moore, 2001, p.134).

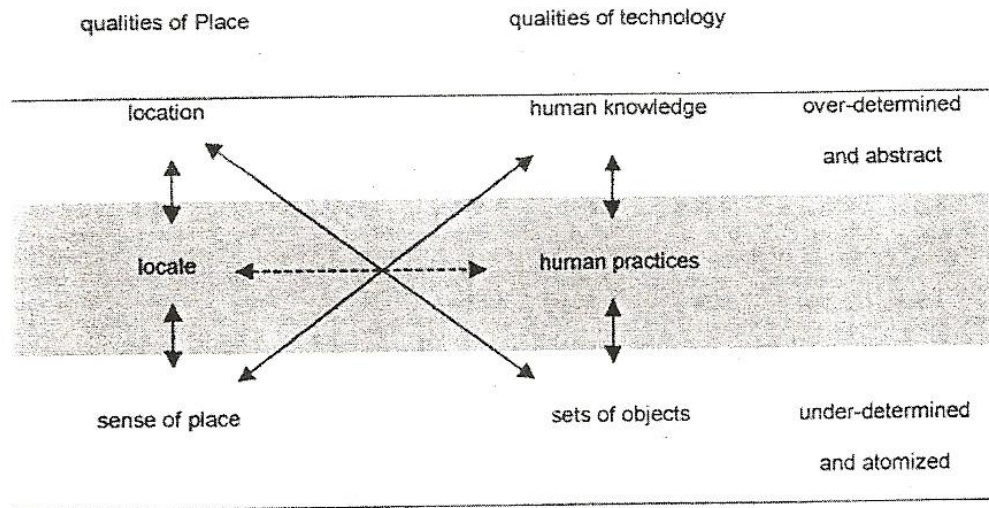


Figure1: The dialogic qualities of place and technology,

Note. From "Place, technology and nonmodern thesis", By S. Moore, 2001, JAE, 54/3, p.133.

### Non-modern Regionalism theory

Steven Moore proposes a new perspective on regionalism and sustainability. As mentioned earlier, he bases his theory on the critical regionalism theory of Kenneth Frampton, and argues against the oppositional views held by Frampton. Frampton puts forth a perspective which views both place and technology as positive, intending to avoid the conflict of modernist and post modernist thoughts on those elements. The point here is that Moore is not critical of Frampton's goal, which is valuing both place and technology, but says that such a goal cannot be accomplished by either a modern or postmodern view. Therefore he sees the problem in "incompatibility of the assumptions upon which the hypothesis relies" (Moore, 2001, p. 136). Frederick Jameson also hinted

that the philosophical ideas of critical regionalism are neither modern nor post modern. (Moore, 2001, p.136) And this leads to Moore's proposal of a "non-modern" regionalism.

The term non modern is taken from Bruno Latour (1993), who argues that we have never been modern in practice (p.11). He believes that the relationship of humans and nonhumans are not as subjects and objects, but "quasi subjects" and "quasi objects" (p.11). These terms suggest that the only element that distinguishes the two at any point of time is power relations. One moment we see ourselves being commanded by machines and technology, and in another moment we are in control.

Moore (2001) argues that in the non modern world humans and nonhumans have "more in common than they don't" (p.136). He also suggests that there is no distance between nature and culture, - there isn't nature that is untouched by human invention anymore, and non moderns don't see ruination in this but opportunities for humans to participate in natural systems.

Figure 2 shows the alternative theoretical positions with the concepts of place and technology in Moore's non modern thesis. Moore (2001) suggests substituting the word "critical" with the word "regenerative", which has been borrowed from John Tillman Lyle. Lyle defines regenerative system as a system that "provides for the continuous replacement, through its own functional processes, of the energy and materials used in its operation" (Moore, 2001, p.136). But Moore argues that this definition is not complete since Lyle has failed to recognize the role of "technological networks" that form ecosystems.

There are three main points on this philosophy which leads us to understanding sustainable architecture in a different way. First is the idea of regionalism and place, with Moore suggesting that sustainable practice should be tied to place. The second point would be that we should recognize social and technological networks that shape architecture and environment. Third is that critical regionalism has contradictory assumptions and is best served by non modern theory.

But how does this theory deal with sustainability issues? In the next chapter, the broad definitions of the theory get more focused on sustainable development and how it considers sustainable challenges.

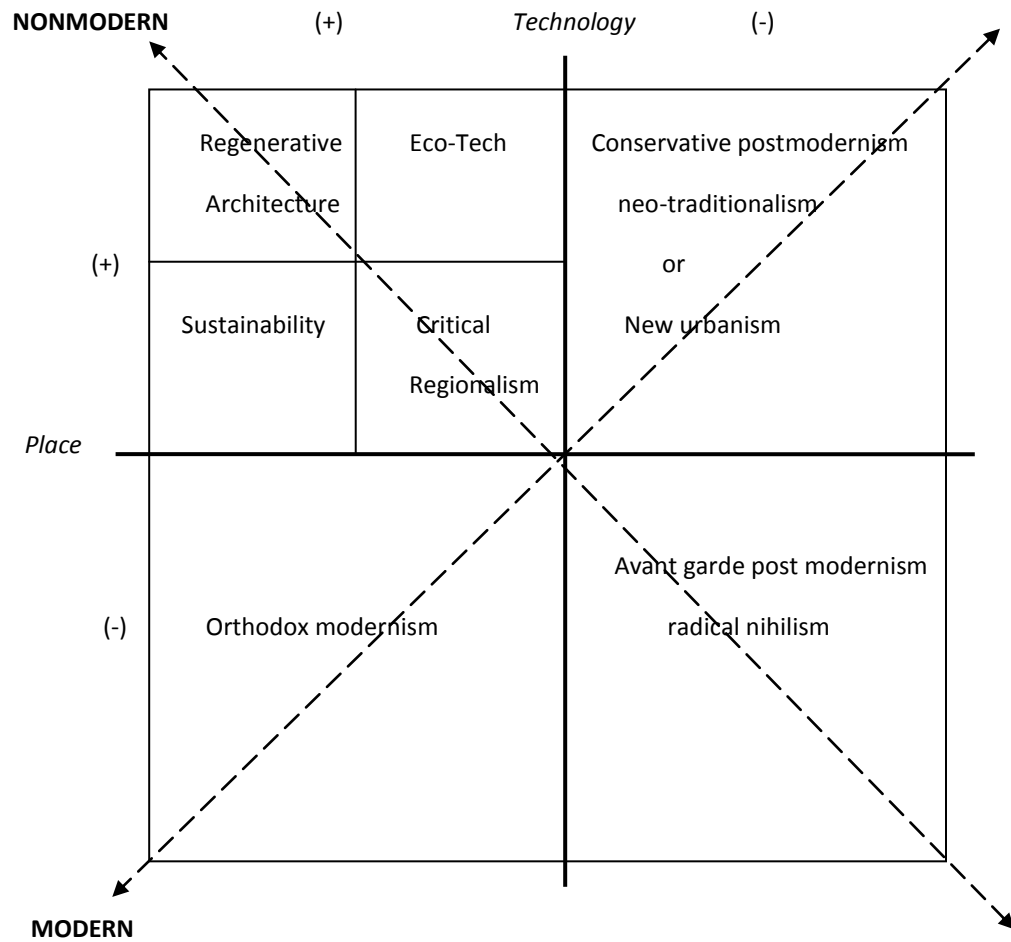


Figure 2: Nonmodern regionalism diagram,

Note. From "Place, technology and nonmodern thesis", By S. Moore, 2001, JAE, 54/3, p.133.

## CHAPTER III

### REDEFINING SUSTAINABILITY

*“Sustainable architecture isn’t a prescription. It’s an approach, an attitude. It shouldn’t really even have a label, it should just be architecture.”*(Quote from Susan Maxman in Guy, & Farmer, 2001, p.140)

#### Introduction

Three decades of debate on sustainability has brought various solutions and definitions on what sustainable architecture is, how it may be measured, what type of technology it might use, where it can be located and so on. Some environmentalists believe that the diversity of solutions can be bewildering and are deeply concerned over the fact that the debate on a universal best environmental approach might have failed. James Wines notes that contemporary architectural practice tends to “confuse, rather than reinforce a progressive image of earth friendly architecture” (Guy & Farmer, 2001, p.140). Meanwhile, some architects disagree with this position and believe that sustainability has become a main theme of thought among designers.

In between these two opposite perspectives, we can find the notion proposed by researchers such as Steven Moore and Simon Guy. Focusing his philosophical view of non modern regionalism on sustainable development, Moore and Guy (2005) suggest that rather than having the necessity to define a universal picture of sustainable practice or devaluing the diversity of solutions, it would be more practical and progressive to celebrate the variety of debates on contemporary sustainable architecture. This is not to

say “that environmental problems are merely imaginary or that they are no more important than any other social problem” (P.4). They argue that rather than critiquing modernism through post modern thought (which most critiques do), it is more productive to critique what architects “actually” do- a concept that is the core of a pragmatic approach to sustainable architecture, and is what Bruno Latour calls “Science in practice” (Moore and Guy, 2005, p.4).

A question that might be asked in accepting such an approach is how can we measure the “progression” of sustainability in a context? Richard Rorty suggests that we should not look for a single reference to evaluate the environmental practices. Instead he argues that we should change our view and meaning of “progress” itself, “instead of seeing progress as a matter of getting closer to something specifiable in advance, we see it as solving more problems” (Moore & Guy, 2005, p.2).

Another aspect of the hybrid approach is that our view towards nature should be through a pluralistic perspective, rather than meeting nature as an external pre given entity to be protected or dominated; we should accept different “myths” of understanding nature. Some anthropologists such as Kay Milton and Clifford Geertz believe that what people do has a significant influence on how they feel, how they think and their “local knowledge” (Moore & Guy, 2005, p.2), and the diverse meanings of nature “give rise to different understandings of the risks involved in our use of the environment and the character and the degree of responsibilities towards it” (Moore & Guy, 2005, p.2).



Taking the flexibility of culture and nature, Moore (2005) suggests that analysis of sustainable buildings should be a series of “contingent hybrids” (p.2) in which the buildings are inseparable from people who shape their environment. Therefore Moore and Guy’s perspective to sustainable architecture can be seen as “anti-representationalist”. Rorty describes this method as one that “does not view knowledge as a matter of getting reality right, but rather as a matter of acquiring habits of action for coping with reality” (Moore & Guy, 2005, p.2)

#### Confusion or Certainty?

Before understanding the hybrid theory in detail, we need to address the debate on whether there is a confusion or bewilderment in sustainability movements. In their book “*a rough guide to sustainability*” Brian Edwards and Paul Hyett, limit the definition of sustainability to “a number of important world congresses” (Moore & Guy, 2005, p.4) through which we have understood how to be more sustainable. With regards to architecture, sustainability is linked to Brundtland definition with emphasis on carrying capacity. Through these definitions they argue that most of sustainable design is about energy efficiency and conservation, while creating healthy, economical and beneficial spaces for local needs.

But Moore and Guy (2005) emphasize the fact that in the rest of their guide to sustainability, they make little mention of political, social and cultural issues that sustainable architecture should face and focus “almost exclusively on resource

efficiency” (p. 4). Moore also argues that the idea of assessment tools such as BREAM (Building Research Establishment Environmental Assessment Method) reduces sustainability to a checklist and points that might ignore other features of sustainability.

What is interesting in Moore’s approach to sustainable architecture is the idea that he does not intend to criticize Edward’s perspective or any other approach to sustainability. That seems to be the core of his view; the idea of understanding how different “environmental claims” are created rather than discrediting any of them. His point is that the “self confidence” (Moore & Guy, 2005, p.5) of some architects dealing with the sustainability challenge might be far from what actually happens.

Edwards and Hyett along with others such as Harry Gordon, believe that energy rating models and assessment tools is all we need to produce social and environmental change, and other than people’s awareness, there is no barrier to the ability of the quantitative and scientific methods to implement sustainable strategies successfully.

There are others who are less confident. For instance, Eric Schatzberg finds such optimism a “flawed” example of “technological utopianism” (Moore & Guy, 2005, p.5), while Deyan Sudjic argues from another perspective, that we tend to judge sustainability by “appearance” (Moore & Guy, 2005, p.5), and if a building looks handmade or made with natural materials, we would call it green building, while the science of being “truly green” is far from exact.

Moore and Guy (2005) agree with Sudjic in which sustainability is full of paradoxes rather than certainty. In an effort to show the inconsistencies of definitions of

sustainability, Cook and Gordon (1994) have analyzed books and articles and found variety of definitions:

*For example, the London Ecology center advocate that “green “ building should use super insulating argon filled windows to increase energy efficiency thereby reducing resource consumption, an acknowledged ecological goal. However these windows require high technology in research and development, and use highly processed or high entropy materials. The windows are not manufactured locally from traditional materials and will require transportation from the point of manufacture to the site (p.680).*

Similarly John Farmer has argued that “there is no conclusive definition of what “green” means beyond a range of creative designs that either explicitly or subliminally reference themselves in relation to nature” (Moore & Guy, 2005, p.7).

### Environmental Knowledge in architecture

Another aspect of a Hybrid approach to sustainability is the idea of drawing upon wider set of disciplinary sources and connecting architectural debate to theory and practice in the humanities and social sciences. Moore (2005) suggests that “by focusing on the process of environmental knowledge making we can avoid setting up bipolar oppositions between different paradigms of thought: the light versus dark green architects or the sociologists versus scientists” (p.7). In other words, all debates about controlling nature, managing it or understanding it better present different modes of knowledge about the environment, which are different and often competing perspectives. The idea of avoiding oppositions is a main theme in his non modern thesis, which he also sees as a solution to dealing with different pathways of sustainable development.

Another of the core ideas of the approach is the importance of the individuals, groups and institutions in presenting different modes of environmental innovations. According to Marteen Hajer (1995), the idea of sustainable development is much more a “Struggle between various unconventional political coalitions, each made up of such actors as scientists, politicians, activists, or organizations representing such actors but also having links with specific television channels, journals and newspapers or even celebrities” (p.12-13). Each of these actors have a specific way of addressing environmental issues and therefore analyzing sustainable development as a set of discourses and ensemble of ideas allows us to “view green buildings as social representations of alternative ecological values, or the material embodiments of the logics that make up the green buildings debate” (Hajer, 1995, p.12-13).

The hybrid approach treats technology as a “fundamentally contested concept and to explore the importance of social context for the shaping of environmental innovation” (Moore & Guy, 2005, p.15). The term “Technology” not only means the artifacts associated with sustainable architecture such as solar panels but also the cultural issues that help create them. According to Andrew Feenberg, seeing technology is this way makes them “not merely efficient devices or efficiency orientated practices, but include their contexts as these are embodied in design and social insertion” (Moore & Guy, 2005, p.15).

Simon Guy (2005) summarizes the hybrid method of analyzing sustainable buildings:

*We have to be sensitive not only to the widely differing motivations and commitments of actors, but also to the range of techniques or technical innovations employed, the variety of contexts and settings in which development occurs, and the social processes involved in the definitions and redefinition of the nature of the environmental problem itself (p.15).*

### Sustainable Buildings Models:

In their article “interpreting Green Design: beyond performance and ideology”, Simon Guy and Graham Farmer (2001) argue that there are two general models of analyzing sustainable architecture: Most common method is to view the diversity of design strategies as “distracting” to the necessity of comparing measurable data on issues such as climate change. And the second approach, believes that the diversity of green architecture is due to the different ideologies and philosophical beliefs held by the actors involved. Here Guy and Farmer (2001) suggest a third model which “recognizes the interpretative flexibility of the sustainability concept” (p. 11). There are three main points in their discussions:

- There is gap between the definition of green buildings and the actual practice of sustainable architecture as a “complex and contextual social phenomena” (Guy & Farmer, 2001, p.11). This approach is the pragmatic approach that Moore suggested in non modern regionalism and what Bruno Latour calls “science in practice”.

- They argue that these diverse strategies do not simply materialize from a pre-given definition of “greenness”. Instead, they are shaped through a combination of different philosophies of green design in a particular context.
- They also emphasize the need to understand contexts of sustainable architecture and link the various technological pathways to the local context, which is one of the main features of Non modern regionalism.

We'll now describe each model briefly.

### *Performance Model*

The performance based approach is founded on two main concepts:

- The environmental challenges we face are “physical in nature and global in scale” (Guy & Farmer, 2001, p.15). Hajer (1995) attributes this view to those that see environmental issues as “global physical crisis that threatens survival”( p.13).
- The second is that science is the solution and that “rational science can and will provide the understanding of the environment necessary to rectify environmental bads” (Guy & Farmer, 2001, p.15). Therefore, they define greenness by technical analytic tools such as life cycle analysis, assessment methods, environmental management systems, etc. In practice, this method has mainly been concerned with efficiency.

Farmer and Guy (2001) argue that this method has brought many benefits to the sustainable movement, but apart from their broad categorizations using assessment tools and physical quantitative measures, there is little to explain the difference of approaches and the diversity of pathways. Therefore the performance method is not complete and is limited to a series of measurements.

### *Ideological model*

In contrast to performance based approach, the ideological model acknowledges the diversity and competing values and the necessity to “encompass the motivations of those individuals involved in the design process” (Guy & Farmer, 2001, p.16).

Guy mentions David Pepper’s work on environmentalism as an example of this approach. Pepper identifies a debate in which the green strategies are either ecocentric (Radical) or Technocentric (reformist) (Guy & Farmer, 2001, p.16). Technocentrics believe in “ecological modernization” which “indicated the possibility of overcoming the environmental dilemma without leaving the path of modernization” (Guy & Farmer, 2001, p.16) whereas ecocentrics believe in a radical approach if we are to avoid ecological crisis. The idea of Ecological Modernization and a performance based approach will be explored in detail throughout the study.

Another example is what Cole (1999) describes as “different shades of green”:

*A deep green building may, for example refer to one designed from the outset to maximize the use of solar energy, day lighting and natural ventilation ,as well as harvest*

*rainwater, treat any wastes on site and use environmentally sound materials in the most efficient way. Light green, by contrast may refer to buildings that have incorporated one or more green features such as high-efficiency windows , high recycled content carpets or automatic shut-off systems for lights but are otherwise conventional (pp.232-233).*

Guy and Farmer (2001) argue that these broad categorizations, while helpful, can have limitations in actual practices, because of the fact that most buildings will employ both high and low technologies and their use of different strategies can be explained by a combination of ecocentric and technocentric approaches.

#### Six logics of sustainable architecture

In another article, “reinterpreting sustainable architecture: the place of technology”, Simon Guy and Graham Farmer (2001) continue to promote their sociological and pragmatic approach to analyzing sustainable architecture and they develop the three models of Performance based, Ideological based and Hybrid models further. They propose six “logics” of sustainable architecture used as a typology for analysis of environmental logics.

Logic is defined according to Hajer (1995) as “a specific ensemble of ideas, concepts and categorizations that are produced, reproduced and transformed in a particular set of practices through which meaning is given to social and physical realities” (p. 44).

The important fact that Guy and Farmer point out in their proposal is that these logics may overlap and interact, and they are by no means “frozen in time or space” (Guy



& Farmer, 2001, p.141). Therefore the categories may merge, collide or even be absent in practice. Each of the logics present the ways in which the debate is shaped differently upon various interpretations of environmental problems. Figure 2-2 is the table of the competing logics of sustainable architecture. It is important to note that the focus of this study will be on what Guy and Farmer have put under eco-technic approach, and is based on ecological modernization. But before getting into more detail, it is best to describe each of the categories concisely.

Logic	Image of Space	Source of Environmental Knowledge	Building Image	Technologies	Idealized Concept of Place
Eco-rechnic	global context macrophysical	technorational scientific	commercial modern future oriented	integrated energy efficient high-tech intelligent	Integration of global environmental concerns into conventional building design strategies. Urban vision of the compact and dense city.
Eco-centric	fragile macrobiotic	systemic ecology metaphysical holism	polluter parasitic consumer	autonomous renewable recycled intermediate	Harmony with nature through decentralized, autonomous buildings with limited ecological footprints. Ensuring the stability, integrity, and "flourishing" of local and global biodiversity.
Eco-aesthetic	alienating anthropocentric	sensual postmodern science	iconic architectural New Age	pragmatic new nonlinear organic	Universally reconstructed in the light of new ecological knowledge and transforming our consciousness of nature.
Eco-cultural	cultural context regional	phenomenology cultural ecology	authentic harmonious typological	local low-tech commonplace vernacular	Learning to "dwell" through buildings adapted to local and bioregional physical and cultural characteristics.
Eco-medical	polluted hazardous	medical clinical ecology	healthy living caring	passive nontoxic natural tactile	A natural and tactile environment which ensures the health, well-being, and quality of life for individuals.
Eco-social	social context hierarchical	sociology social ecology	democratic home individual	flexible participatory appropriate locally managed	Reconciliation of individual and community in socially cohesive manner through decentralized "organic," nonhierarchical, and participatory communities.

Table 1: six logics of sustainable architecture

Note. From "reinterpreting sustainable architecture", by S. Guy and G. Farmer, 2001, JAE, 54/3, p. 141

### *The eco-technic logic*

This method is based on the ideas of “Ecological modernization” and a “techno rational, policy-oriented discourse” (Guy & Farmer, 2001, p.142) which believes that science and technology can solve environmental problems. Environmental issues in such a perspective are global in scale, and what is required to deal with such global issues is a “centralized national and global action” (Guy & Farmer, 2001, p.142).

In practice this method shows itself in top-down decision making processes, in which a “progressive process of innovation mitigates the adverse effects of development” (Guy & Farmer, 2001, p.142). In other words “the only way out of the ecological crisis is by going further into industrialization” (Guy & Farmer, 2001, p.142).

In buildings, energy efficiency is prioritized and the outcome is “Recognizably modern, usually high-technology buildings”. Success in such an approach is merely quantitative and based on numerical reduction in waste, energy consumption, ecological footprint and resource use reduction.

### *The eco-centric Logic:*

This method is in sharp contrast to the previous approach, and its adherents believe in radical change in values. They argue that “the challenge of sustainable design is too big, too complex and too uncertain to deal with as a technical problem or even as an exercise in institutional design”. It is a method which promotes the interaction of the

“living” and the “nonliving” as interdependent suggested by the notion of “Gaia” (Guy & Farmer, 2001, p.142). They combine the science of ecology with ethical concerns. A good example would be Aldo Leopold’s “land ethic” which describes that “land is not a commodity to be bought and sold but a community of which humans are an integral part” (Guy & Farmer, 2001, p.143.)

They view nature as fragile, and sustainability requires the protection of ecosystems. Buildings are seen as unnatural forms of “pure consumption” interrupting natural cycles. Therefore the essential role of sustainable architecture is not to interfere with nature; the fundamental question being “whether to build at all” (Guy & Farmer, 2001, p.142). Where building is necessary, the goal would be to reduce the ecological footprints of buildings.

### *The eco-aesthetic logic*

Here the role of sustainable architecture is metaphorical and inspirational. This perspective is “inherent in eastern philosophies” and “postmodern science” (Guy & Farmer, 2001, p.142). This logic puts emphasis on ‘individual creativity’ and includes theories such as “complexity theory, chaos science, self-organizing systems and non linear dynamics” (Guy & Farmer, 2001, p.142).

The role of green design would be to “break free from strictly formalist interpretations of architecture”. In this method architectural form is more important than physical performance, as Charles Jencks (1995) indicates “good ecological building may

mean bad expressive architecture” (p.94). The technology of the information age, the ability of creating curved forms through computer modeling and new materials help create new forms that have been inspired by “environmental message” (Guy & Farmer, 2001, p.145). Jencks (1995) suggests that this new discourse can be seen in the “organitech” architecture of Frank Gehry, Calatrava, Isozaki and the like.

### *The eco-cultural logic*

This approach emphasizes a reorientation of values to combine environmental issues with cultural concerns. The significance here is the preservation of the diversity of cultures. The notion of this approach is that truly sustainable buildings need to relate more to locality and place. This approach is inspired by a “phenomenological account of the environment” and renews Heidegger’s concept of dwelling with focusing on relearning sense of place (Guy & Farmer, 2001, p.145). It involves both the development of a sense of being native to a place and a responsibility for protecting ecosystems. It promotes decentralization and is concerned with regional or bioregional characteristics. Contemporary architecture should therefore “Recognize very deeply structured personal responses to particular places” (Guy & Farmer, 2001, p.145) if it is to be sustainable, and it should move away from universal and technological based designs.

### *The eco-medical Logic*

In this method, the concern is focused on a social and humanist approach to sustaining individual health. The discourse relates “the health of the individual to an increasingly important condition: a healthy environment” (Guy & Farmer, 2001, p.145). The application of technology in this movement is not necessarily a “risk-free operation” and reducing the use of technology does not “lead to a shrinking well-being: on the contrary even a growth in well-being can be imagined” (Guy & Farmer, 2001, p.145).

In buildings we can hear about “sick building syndromes” in such methods and the focus is on interior of the buildings. Buildings themselves are “potentially dangerous environments in which individuals are put at daily risk from a variety of hazards” (Guy & Farmer, 2001, p.145).

The isolation from nature is being challenged in this approach, and occupant control over their environments is a significant issue. We also hear about “healing environments” or an architecture that can “honor the senses”.

### *The eco-social logic*

This discourse goes beyond the concern for the individual to involve a political movement that argues that the “ecological crisis stems from wider social factors” (Guy & Farmer, 2001, p.145). It addresses the issue of democracy, and it advocates a community model which assists “common needs” where we can experience freedom. This is

understood as the term “social ecology”. They believe that “human domination and degradation of nature arises out of social patterns of domination and hierarchy, patterns of social life in which some humans exercise control or domination over others” (Guy & Farmer, 2001, p.146).

This approach suggests decentralization of society into small, self sufficient, “communal units” which works with “intermediate technologies that are based on an understanding of the laws of ecology”. They suggest creating buildings with full participation of the ecological community, and therefore they highlight the “democratic control over technology and expertise” (Guy & Farmer, 2001, p.146).

As mentioned earlier, the focus of this study is what Guy puts under the “eco-technic” approach based on “Ecological modernization”. Are the categories of Simon Guy beneficial? Guy mentions that in practice the logics may merge, collide or be absent, and that these are only general categories of different pathways towards sustainable architecture. Is the current Ecological modernization theory solely concerned with physical performance and lack social concerns as Moore and Guy suggest? Do such broad categories help in scales bigger than individual building analysis? Do accepting different pathways mean accepting any practice claiming to be sustainable?

To try to answer such questions, it is best to first take a look at the ecological modernization theory and debates, and after wards focus on two ecological modern contexts, Denmark and Japan to understand the differences, the practices and the feasibility of applying Moore and Guy’s notions to such contexts.

## CHAPTER IV

### ECOLOGICAL MODERNIZATION: THEORIES AND DEBATES

#### Introduction

Ecological modernization theory first emerged during 1980s primarily in the UK, Germany and the Netherlands. One of the significant features of the theory is its view towards technology and industrialization. Buttel summarizes this view:

*Ecological modernization theorists are basically of the view that as much as environmental problems in the past have been caused by an industrially driven process of expanded production and consumption, the solution to the environmental problems cannot be found in radical movements that seek to restore the lower levels of output and consumption that prevailed years ago, or in centralized command and control regulation. Rather, in the ecological modernization perspective, the solution to the environmental problems caused by industrialization requires more industrialization-or “super-industrialization”- albeit industrial development of a far different sort than that which prevailed during most of the 20<sup>th</sup> century. (Barrett, 2005, p.6)*

Arthur Mol and David Sonnenfeld (2000) suggest three stages in the development of this theory (p.5). In the first stage, theoreticians such as Joseph Huber emphasize heavily the role of technological advances in environmental change, have positive views towards market actors, and have “limited notion of human agency and social struggles” (Mol & Sonnenfeld, 2000, p.5). But during the second stage of the development, from the late 1980s until the mid 1990s, there is “less emphasis on technological innovation as the key motor of ecological modernization” and more attention paid to the cultural and social dynamics of the movement.



According to Mol and Sonnenfeld, after the mid 1990s, Ecological modernization theory has broadened geographically to include non-European countries and involve studies on “the ecological transformation of consumption” (Mol & Sonnenfeld, 2000, p.5).

Five core themes of ecological modernization are:

- *Changing role of science and technology*: according to Mol and Sonnenfeld, “Traditional curative and repair options are replaced by preventive socio-technological approaches” incorporating environmental considerations from the design stage.
- *Increasing importance of market dynamics and economic agents* as “carriers of ecological restructuring and reform” (Mol & Sonnenfeld, 2000, p.6).
- *Transformations in the role of nation-state*: more decentralized and flexible styles of governance have materialized, with less top-down control.
- *Modifications in the position, role and ideology of social movements*: Social movements are involved in public and private decision making more than 1970s and 1980s. Within such social movements there are often debates regarding the tensions of dualistic strategies and ideologies.
- *Changing discursive practices and emerging new ideologies* meaning that complete neglect of the environment is no longer a “legitimate position”.

Now I’ll describe the early debates on Ecological modernization, occurring mainly during 1980s, which are less relevant today but had a significant role on the formation of the theory, and afterwards focus on more contemporary debates.

### Early debates

The debates occurring in this stage, during the 1980s, were put forward by the two dominant discourses of the 1970s: deindustrialization theorists and the neo-Marxists. Mol and Spaargaren argue that these can “no longer be interpreted as adequate criticism of Ecological Modernization Theory” (Mol & Sonnenfeld, 2000, p.18).

#### *Deindustrialization And The Role Of Technology In Ecological Modernization*

The first debates were made through discourses which were very popular among environmental social scientists during 1970s, and were defined under terms such as “de-industrialization”, “de-modernization” or “counter productivity” (Mol & Sonnenfeld, 2000, p.18).

In this stage of the debate, Ecological modernization challenged the traditional environmental perspective that industrialization is the main problem of environmental crisis and fundamental “reorganization of the core institutions of modern society” (Mol & Sonnenfeld, 2000, p.18) would be necessary for sustainable development.

According to Mol and Spaargaren, the most frequent criticism in this early period, was the “technological optimism” (Mol & Sonnenfeld, 2000, p.18) and its technocratic character. While theorists such as Hannigan suggest that ecological modernization is “hobbled by an unflappable sense of technological optimism”, others such as Hajer (1995) have tried to incorporate the debate within ecological Modernization. Hajer has

identified two variants of ecological modernization: a techno-corporatist and reflexive ecological modernization. While the former is more focused on technological fixes, the latter emphasizes social and cultural practices (p. 280). Christoff has made a similar categorization of weak (techno-economic) and strong (democratic) ecological modernization (Mol & Sonnenfeld, 2000, p.20).

The categorizations of Hajer and Christoff are similar to the early theory of Joseph Huber in Ecological modernization “between a more technocratic and a more sociocratic development path” (Mol & Sonnenfeld, 2000, p.20).

According to Mol and Spaargaren, technological transformations do not have as central a role in the theory as the critiques claim, and argue that not only do technological changes not necessarily determine environmental reform in the theory, but also that the meaning of technological change has broadened and includes “Structural change of socio-technological systems” and therefore makes such claims less adequate today (Mol & Sonnenfeld, 2000, p.20). They also believe that after the Brundtland report “demodernization perspectives do no longer succeed in challenging the core features of Ecological Modernization” (Mol & Sonnenfeld, 2000, p.20).

All in all, Mol and Spaargaren point out two main notes: first that the critiques of the technological character of Ecological Modernization as well as its lack of attention to the role of different actors and groups in the environmental reform are most relevant to the early stages of the theory and are no longer adequate. Secondly, they want to argue

that these criticisms have changed the theory to a great extent, and the actual environmental reforms and the role of actors have changed considerably.

### Contemporary debates

I'll now describe some of the more contemporary debates around Ecological Modernization and how theorists respond to the criticisms.

#### *Materiality of environmental challenges*

One of the most common themes of criticisms is the existence of environmental problems. In environmental sociology, it has become clear that our relationship with nature cannot be taken for granted anymore. According to Mol, there are two schools of thought other than Ecological Modernization which try to redefine the relation of nature to society: one are those who believe that ecology is a priority and the neglect of nature, should be replaced with a form of ecologism (human ecology), and postmodern views which range from radical views challenging the existence of environmental problems to more moderate approaches of seeing environment as “socially construct” (Mol & Sonnenfeld, 2000, pp.27-28). Human ecology was basically “a reaction to the long neglect by “mainstream” sociology of the materialist dimension of social practices and institutional developments.” They criticize the borders between social and natural created by classic sociology, and argued for a more reflexive mode of relating the two.

Mol argues that Ecological modernization does redefine the borders of natural and social environments in modern society, and agrees with human ecologists in the necessity of an interrelation of nature and society. He suggests that the difference between Ecological Modernization and human ecology is that in Ecological modernization it is believed that “we must not replace the former disregard of nature with some form of present-day biologism or ecologism” (Mol & Sonnenfeld, 2000, p.28). To Ecological Modernists, the “disregard of nature” in the past is linked to a “design-fault” of modern societies, which is the absence of analyzing environmental factors within the field of sociology.

Post moderns see Ecological modernization as “a remnant of the old modernization theories and an extension of the Enlightenment project” (Mol & Sonnenfeld, 2000, p.28). According to Mol, the critiques of Post Modernists can be radical in the sense that they question whether sustainability can be achieved in a feasible way (Mol & Sonnenfeld, 2000, p.28). Some post moderns such as Bluhdorn have reached a conclusion that environmental problems don’t exist anymore; “to the extent that we manage to get used to the non-availability of universally valid normative standards, the ecological problems...simply dissolve” (Mol & Sonnenfeld, 2000, p.29). Environmental challenges don’t seem to be as problematic in a universal way. According to post moderns, “no distinction can be made between more or less “objective”, “true” or widely held inter subjective understandings of the reality” (Mol & Sonnenfeld, 2000, p.29). Some less radical post modernists, however, have been less critical and call for a new grand narrative in which natural science and scientists do play a role in easing environmental

challenges. But it is important to note that the postmodern term itself has different meanings which should be taken under consideration when evaluating it in relation to Ecological Modernization.

Relativists also criticize the theory's realistic approach. They believe that, seeing the changes in environmental discourse from 1970s to 1990s (in its definitions and approaches), environmental problems don't have a "real" and "objective" existence but are "the result of a process of framing certain social problems by certain social actors" (Mol & Sonnenfeld, 2000, p.29). To the relativists, sustainability as a dominant discourse should be deconstructed "showing that the story could have been framed otherwise leading to different kinds of conclusions and priorities" (Mol & Sonnenfeld, 2000, p.29).

Some ecological modernization theorists such as Mol and Cohen have tried to address ecological modernization as a part of a "Reflexive modernity" suggested earlier by Hajer. Under such a condition, Ecological modernization "can no longer be thought of or designed in terms of undisputed facts, values and futures" (Mol & Sonnenfeld, 2000, p.30). The environmental risks can no longer be accepted on the authority of scientists alone, and a best practice can no longer be pointed out.

In their article "from a sociology of nature to environmental sociology", Graham Woodgate and Michael Redclift (1998) try to find a way out of narrow constructivist and realist approaches. They believe that as realists tend to live social issues separate from nature, constructivists try to exclude physical aspects of the environment. Lutzenheiser explains these contrasting stands:

*Just as natural science approaches tend to exclude human behavior, so...sociological perspectives tend to exclude the physical and environmental from their accounts of social change (p.4)*

Woodgate and Redclift (1998) argue that the environment is not only socially constructed but is also the creation of human activity and behavior. In this approach they try to distance themselves from postmodern/constructivist views. But they also distance themselves from what they call “biological determinism”, and argue that nature should not be seen as “*either* the material conditions of our existence, *or* as no more than a set of culturally generated symbols. We must begin to accept nature as both” (Woodgate & Redclift, 1998, p.4).

Ecological modernization, towards a non modern perspective?

In this part, I want to argue that there are movements within ecological modernization, which are trying to move away from modern-postmodern oppositions and getting closer to a non modern perspective in theory. One such theory is what was mentioned earlier as “reflexive ecological modernization” by Marteen Hajer. Hajer (1995) believes that environmental problems have become too scientific and much less a matter of “direct experience”. He argues that the environmental discourse has changed. It “no longer focuses on the question of whether there is an environmental crisis, it is essentially about its interpretation” (Hajer, 1995, pp.14-15). To Hajer, sustainable development should be seen as a “story-line” with various actors which might have different interests, but share the vague story-line. Therefore the problem is no more “a

conflict over a predefined unequivocal problem with competing actors pro and con” but a “continuous struggle over the definition and the meaning of the environmental problem itself” (Hajer, 1995, pp.14-15).

He also argues against realist perspective towards nature, and emphasizes the role of “experience” and “culture” in different understandings of nature (Hajer, 1995, pp.14-15). He believes the environmental discourse is “time- and space-specific and is governed by a specific modeling of nature, which reflects our past experience and present preoccupations” Hajer, 1995, pp.14-15). Like Moore, Hajer rejects the idea that this view is close to post modernism in denying actual ecological crisis, but says that we cannot exclude our social and cultural experiences which influence “our perception of reality” Hajer, 1995, pp.17-18), so we no longer analyze ecological problems, but “socio-ecological” problems. Hajer (1995) proposes an “argumentative” theoretical discourse instead of a linguistic one. He describes such a discourse:

*To understand the meaning of a sentence or whole discourse in an argumentative context, one should not examine merely the words within that discourse or the images in the speaker's mind at the moment of utterance. One should also consider the positions which are being criticized, or against which a justification is being mounted. Without knowing these counter-positions, the argumentative meaning will be lost (P.17).*

Hajer defines reflexive ecological modernization as a “democratic process of deliberate social choice out of alternative scenarios of development” (Hajer, 1995, pp.17-18). This choice is not limited to “instrumental rationality” (how to do); it should also encourage the debate on “norms and values”. For Hajer, this public debate should be carried out in early stages of decision making processes.



With such an approach expertise and knowledge becomes challenging. According to Hajer, “a reflexive approach to science would start from the recognition of the conditionality of knowledge, and would also acknowledge the important role of the process in which scientific insights are processed into workable units of knowledge” (Hajer, 1995, p. 18). Therefore science does not produce truth, but “truth claims”. Thus such public debates can be seen as unifying and “clarifying” methods to understand a specific problem and solving it. Whether such debate reaches a consensus, it would depend on the context. According to Hajer, in some contexts, democratic deliberations and open debates work better than others (Hajer, 1995, p. 18).

There are also other theories which try to integrate cultural issues and ecological modernization. For instance, Cohen identifies two axial dimensions to environmental knowledge: ecological consciousness and epistemological commitment. He emphasizes environmental values in different contexts, and the “interpretive filter” of which environmental knowledge is formed.

As mentioned earlier, Mol suggests that some of the ideas of Hajer are close to post modernism, which Hajer rejects. This is why the term “non modern” becomes crucial. What seems to be clear is that Ecological modernization theory has evolved from techno- centric views and confidence in science alone and much attention has been paid to integrating social/cultural values and norms with the ideas of technological advancements. Accepting the theory of non modern regionalism, as an axis which resolves the oppositions of modern/postmodern debate, can give meaning to theories of

reflexive ecological modernization and the like. Figure 3 shows the position of ecological modernization in the non modern diagram of Steven Moore.

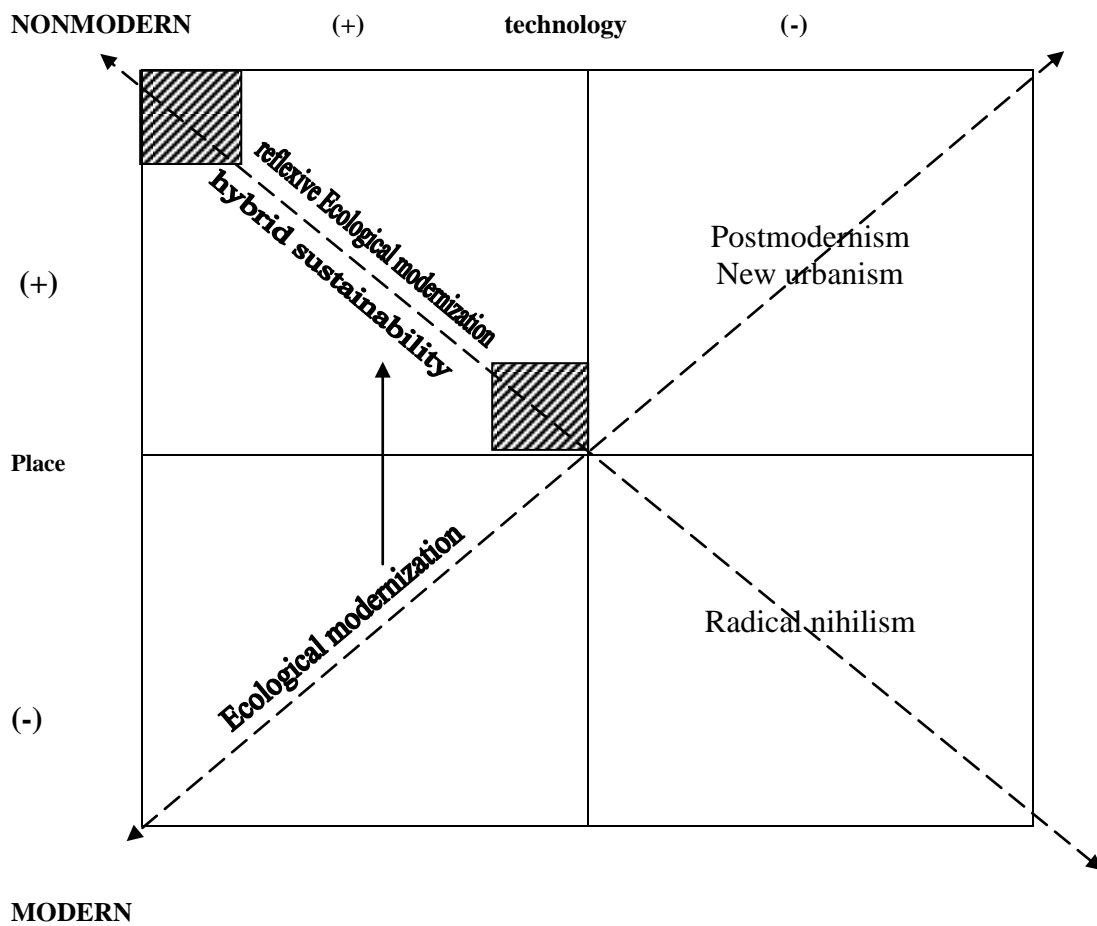


Figure 3: The position of ecological modernization theory in nonmodern diagram

Note. From Author.

In conclusion, there seems to be three main approaches to environmental challenges: biological determinism, which some argue can be applied to terms such as Ecological modernization, Post Modern views and those theorists such as Hajer, Woodgate, and others who try to connect the two and move beyond the conflicts between modern and postmodern views. In such a perspective, the views of Non-modern regionalism and Simon Guy's "socio technocratic" suggestions on sustainable architecture can be seen as one of the subcategories of such an approach. One of the main points ,however, is that the pioneers of Ecological modernization claim that the theory has been distanced from a technocratic view of industrialization, and the critiques against this characteristic are no longer valid and adequate since this theory is becoming more close to a "reflexive ecological modernization" that some theorists such as Hajer represent.

In order to understand the practical position of Ecological modernization theory within the non modern paradigm, I studied two cases which were regarded as "market oriented" approaches to sustainable development which have their roots in Ecological modernization and analyzed the conflicts that rise in practice, and how nonmodern regionalism intends to resolve them.

## CHAPTER V

### CASE STUDY: ORESTAD DEVELOPMENT, DENMARK

#### Introduction

##### *Oresund region*

Europe has developed an economically powerful core of metropolis' and big cities, known as the 'Blue Banana' due to the shape of the region it occupies. This area stretches across Europe, and includes cities such as London, Frankfurt and Milan. The Oresund region, which consists of eastern Denmark and Skane, the southernmost region of Sweden – is the new regional centre of Northern Europe and one of only a few major urban metropolitan areas that can be found outside of this economically prosperous region (Orestad Development Corporation, 2003).

The Oresund region has been on the national border between Denmark and Sweden since 1658, when the Danish Kings had the control of Baltic Sea and all passing ships had to pay taxes, which made the Copenhagen area very wealthy at the time. The Oresund region is still an important region known as the gateway to Scandinavia, competing economically with the "Blue Banana". Along with its economic potential, it's the commitment of Danish and Swedish governments to create environmentally sound developments, making Oresund one of the cleanest metropolitan regions in Europe (Orestad Development Corporation, 2003).

According to Orestad Development Corporation, The Oresund Region has become a regional centre due to its variety of key positions:

- The largest metropolitan area in Scandinavia
- Excellent access to the Scandinavian and Baltic markets
- Highly developed infrastructure
- Distinct international profile and geographical proximity
- A large concentration of knowledge
- A high growth rate

In 1991, the Danish and Swedish governments decided to construct the Oresund Bridge, connecting Malmo in Sweden to Copenhagen, which demonstrated the encouragement of future growth in the area.

The attractive conditions of the Region have created the largest metropolitan area in Scandinavia with its 3.6 million inhabitants and its high concentration of businesses.

Approximately 3,400 foreign-owned businesses have established themselves in the Region. Furthermore, 137,000 students attend courses at 14 universities with a scientific staff of about 10,000 researchers (Orestad Development Corporation, 2003).



Figure4: Oresund region

Note. From “Framing strategic urban projects: learning from current experiences in European urban regions”, By , W. Salet and E. Gualini, 2007, P. 172.

### *Orestad Development*

Orestad is a significant development in Copenhagen. It is located in the Island of Amager between the Copenhagen international airport and the old city center. The main idea was to “Create a city annex to attract national and international investors” (Salet & Gualini, 2007, p. 172). Not only the location is a key feature, but also the high accessibility by different means of transportation and closeness to a major park and green area are contributing to the significance of the development. The area of the development is 310 ha, and the actual construction process started in the late 1990s and is expected to take 35 years to complete.

The site is managed jointly by Copenhagen Municipality and the Danish state and includes around 100ha which are protected from development. It borders existing development on the east of Amager and lies south of Copenhagen University. To the south and west of Orestad are the protected areas of Kalvebodkile and Amager Fælled. The area is a former salt meadow and is home to a number of wetlands.

Development of the two first districts is in full progress and is expected to be finished by 2010. The two remaining districts will gradually emerge throughout the next 20–30 years (Orestad Development Corporation). Ultimately; Orestad will be home to 30,000 people and will provide jobs for 60,000 in addition to 20,000 university places.

It is hoped that Orestad will be witness to new and exciting ‘ecological’ buildings and will spearhead the use of environmentally sensitive technologies. The Orestad Corporation has outlined its desire for new building in Orestad to raise the environmental standard of buildings based on urban ecology principles. It is hoped that this will engender an appreciation and enjoyment of the individual buildings.

The project resembles other large urban projects in Europe, where entrepreneurial strategies are used to improve the region’s competition with international investments. Some of the significant features are:

- political involvement of the national government: the project was decided upon by parliament and executed by a publically controlled corporation
- big investments in public transportation

- the development corporation operates in market terms while the state guarantees the loans covering the development costs
- The master plan envisions a mixed use and high density consisting of office development, housing, major public facilities and green space.

These features which have contributed to the significance of the project are clear markers of a change in the approach towards urban development in the Copenhagen area, which was initiated by the need to compete globally with other European developments.

#### *Denmark's history of planning policy*

In many ways, the history of spatial planning in Copenhagen is a typical tale of a Scandinavian metropolis. After World War II, the public sector had an important influence in the city's spatial development through planning measures and through large public investments in infrastructure and housing (Salet & Gualini, 2007, p. 172). At the start of 1990s, a sudden change of policy led to the embrace of a stronger entrepreneurial philosophy which is also evident in development. The Orestad project is seen as one of chief examples of this new policy direction.

The expansion of Copenhagen from 1940 to 1980 took place in rural areas around the municipality. The framework of this expansion was the famous 1947 "finger plan" which demonstrated a clear notion of controlled suburbanization around several infrastructure corridors that were connected to the central Copenhagen with a rail system. In these 40 years 240000 new housing units were constructed.





Figure 5: 1947 finger plan

Note. From “The globalized city : economic restructuring and social polarization in European cities”, by F. Moulaert, A. Rodríguez and E. Swyngedouw, 2003, p.175.

According to Majoor and Jorgensen, since the island of Amager was in the “palm” area of Copenhagen, it was neglected in the plan. For instance, while the 100000 people in Amager relied on buses and could cross the water from two locations, commuter trains were constructed to facilitate the “fingers”.

During the 1970s and 1980s the financial situation of Copenhagen got worse due to the loss of wealthy inhabitants. The city faced depopulation, and diminishing employment and investments in the 1980s, when the support of national government was limited. From the late 1980s, the liberal-conservative government asked the city of Copenhagen to initiate a metropolitan growth strategy. This strategic decision coincided with adoption of a more pragmatic approach by the social democratic party, who became less committed to the welfare city.

In such an atmosphere, the national government made two decisions: one was to study the opportunities for redevelopment of Copenhagen harbor, and the second was to set up a committee to discuss the current state of the city and suggest actions to improve the situation. The commission pointed towards two negative aspects of the socio-economic crisis: industrial decline, lack of new growth and unemployment; and an expensive demographic composition, with many elderly and young and an increasing concentration of low income groups and the socially excluded. These discussions changed the political attitude towards the Capital, improving the competitiveness of the city in relation to other metropolitan areas in Europe.

Along with this revitalization policy between the city and the national state, there were two other responses to this crisis (Salet & Gualini, 2007, p. 172): first housing policy gradually changed in favor of middle and high income households. Social housing in Denmark dates back to the beginning of the 20th century and has been an important part of social democratic housing policy. The democratic tradition of self-governance in the housing co-operatives is regarded as unique “social capital”, which constitutes one of

the often overlooked strengths of the Danish Welfare Regime. The number of newly built social housing estates decreased during the 1980s and has stopped completely since the late 1990s.

This change in housing policy, aimed at attracting higher income families and improving the tax base of the city, was gradually accepted by the social democratic leadership during a ground-breaking coalition government with the strengthened liberal and conservative members of the city council.

These political changes along with economic ones such as the combination of inflation with tax reductions for private ownership from the 1960s made property purchase very beneficial for upper working class and middle class households. This led to the beginning of a continuous process of housing segregation, because as middle income residents left the social housing sector, the share of low income residents increased. The combined result of these changes was that the social geography in the metropolitan region became more polarized.

The second response was the attempt to develop a rational regional strategy for employment and infrastructure development within the framework of the Greater Copenhagen Council, the regional authority.

The task of GCC as a regional political authority was to ensure infrastructure development and to undertake growth –stimulating initiatives. But the GCC suffered from a functional and financial crisis since its beginnings, and it was paralyzed by internal struggles between the poor social democratic and the richer conservative-liberal

municipalities outside Copenhagen. The conservative-liberal government finally closed down the GCC in 1987, and the metropolitan region was left without a political authority.

In such a context, the paths towards two major projects in the area were paved: building a link between Copenhagen and Swedish city of Malmo, and the initiation of Orestad.

#### *How the project was initiated*

The first ideas on the project were proposed around 1990. This first proposal consisted of both entrepreneurial and social-welfare aspects. One of the chief events that led to the initiation of Orestad project was the recommendations of the “Wurtzen committee” which consisted of a small group of people who had expressed views on Copenhagen, and were asked to give these recommendations to the parliament. The rationale was also determined by a group of initiators consisting of some members of the committee, local and national politicians, and the logic has been described as (Salet & Gualini, 2007, p. 172):

- This development was seen as an opportunity to finance a high quality public transport system which would also provide an additional connection to the airport. The 310 hectare development would create enough revenues to eventually pay for the construction of this form of public transport.
- The project would also boost Copenhagen’s economy by creating areas for international business, high-end research, and quality housing. The strategic

location of this new “city center” which was near the airport, the bridge to Sweden, and to the old city center, made it an ideal site for international investors.

The initiators of the project were inspired by the English new town development concept, in which a public agency leads the development. By setting up such a public agency, the project could be omitted from public budget.

Eventually in 1992 the “Act on Orestad” was passed by the parliament. According to this act, a development corporation- Orestad Development Corporation- (Orestadsselkabet I/S) was to be co-owned by the city of Copenhagen (55 %) and the Ministry of Finance (45%) and it was going to develop Orestad in an area co-owned by the two parties. This in itself was an organizational innovation (Salet & Gualini, 2007, p. 173).

Along with this organizational innovation, there was also a financial one. It gave the power to the ODC to develop a mini metro system. This would increase the accessibility of the area and, hence, the prices of the buildings would rise, making the corporation able to pay back loans.

### *Orestad North*

Orestad North is the most developed part of Orestad. The district is a mixed town including residence halls, apartment buildings and DR Byen, the IT University and the University of Copenhagen, Amager. The large institutions have turned the town into an

international research and development center for culture, media and communication technologies.

### *The Amager Faelled District*

Only the eastern part of the Amager Faelled District has been developed. This is the location of Amager Hospital, the residential area of Solstriben, Orestad Friskole, and the day-care center of Småland. The western part of this area will be the last developed section of Orestad.

### *Orestad City*

Orestad City has already been inhabited by families moving into apartment buildings and by a number of businesses. The focal points of the district are Kay fishing grounds to Orestad Metro and the Regional Train Station as well as the city park with its many surrounding dwellings. Orestad City is also the location of the large shopping center of Field's. Immediately west of the district, one of Europe's best golf courses is being laid out.

### *Orestad South*

Orestad South will become a dense and varied urban community including businesses, residential areas, shops, schools and other public services. Orestad South will

be the most populated district of Orestad. Some 10,000 people will move into this district, which will also become the professional basis for another 15000 to the west and the south, Orestad South borders on the Kalvebod Faelled District. Some of the sites of Orestad South have already been sold, and the first constructions have emerged in 2007/08 (Orestad Development Corporation, 2003)

### Project initiation

#### *Decision Making Process, Establishment Of Orestad*

One of the major controversies in the establishment of Orestad was how it responded to the nature conservation of the island of Amager. As mentioned earlier, the 1947 regional “finger plan” neglected Amager because of poor infrastructure connections between the island and the rest of the metropolitan area. While the eastern part of the Island was mostly urbanized, the western part was nearly untouched, used by the Danish army as target practice after World War II.

From the perspective of planning, the western parts had been zoned as rural area, while the part with most environmental value, the former coastline area close to the existing built-up area was zoned for urban uses. Growing environmental concerns in the 1970s led to a nature conservation status for the whole area in 1974, which would prevent future development, but the case was halted since the public authorities opposed the idea, claiming to have had plans for the area for a long time.

During the 1980s, after the army moved out of the area, a plan was established which would protect most of the area, but also permitted some development to take place in a linear north-south strip on the eastern fringe of the new area. This was a good compromise for both parties, since it left almost 90% untouched, including many of the sensitive environmental parts. But after recognizing the potential for development and attracting international investors to the area, this plan was forgotten completely, leaving the environmental groups stunned. The "act on Orestad" was passed just eighteen hours after the Nature Conservancy Board had decided to preserve the area as a nature reserve (City Of Copenhagen, 2003).

According to the former chairman of the Danish society for the conservation of nature "It was all very ugly, this is not the normal way administration is done in this country. This is actually the ugliest I know" (Salet & Gualini, 2007, p. 175).

#### *Decision Making Process, Orestad Master Plan*

According to the *Act on Orestad*, the Orestad Development Corporation had to hold an international architecture competition with the assistance of the Orestad Council. This was to form the basis of the Master Plan of Orestad. The result of the competition had to be published in order to ensure a public debate could take place before the Master Plan was drawn up. However the debate had some limits, the intentions and vision of Orestad as well as further details such as the area use and plot ratio for the different areas are described in the law, so these issues were not debatable. The area would be a linear



rectangle along the north-south axis of the new high quality public transport system. The rectangle was 600 \* 5 Km in length and it already included the Bella center, Copenhagen's large congress and exhibition facility. The focus of the plan would be on offices (60 %) and the rest would be a mixture of housing, universities, retail and entertainment.

One of the most important decisions at this stage of the project was to determine the type of public transportation which would facilitate the area. After a long process of debates and decision makings, the preference was towards a driverless mini metro system. This system was more expensive to build compared with other types of transportation, but it was expected to be safer, running at a high frequency and not interfering with street traffic.

In 1993, the Orestad Development Corporation was established and on April 13<sup>th</sup> 1994 they arranged the architectural competition which had 122 entrants from all over Europe (Architectural Review, 1995). The ongoing theme in the details and requisite characteristics of the competition was the green dimension (Architectural Review, 1995). The brief required all entries to respect various existing elements of the site - for instance the common to the west, the university and other institutions to the north, certain protected natural wetland areas within the site, and the Belle Center, the national exhibition centre which at the moment rather bizarrely projects into the middle of the common. The new suburban light railway line was plainly to be the backbone of any solution, though the brief suggested that entrants should explore the potential of the boulevard as a unifying urban device (Architectural Review, 1995).

In the invitation of the idea competition the Orestad Development Corporation wrote:

*Concrete planning of the Orestad should take place in a climate of full openness. In addition to the usual publication procedures in connection with incorporation of the project into the urban area development plan and the local plans the results of the international architectural competition may provide the basis for a broad-based popular debate giving the residents of Copenhagen and not the least the residents on Amager the opportunity of influencing the design of Orestad (Orestad Development Corporation, 2003).*

The panel of judges gave several projects prizes, including four first-winning projects. To ensure the mentioned 'climate of full-openness' all the prize-winning projects, which were short-listed as potential winners of the competition, were shown in public at an exhibition in Amager Culture House / The Community House. This exhibition was held between January 15<sup>th</sup> and February 12<sup>th</sup> 1995, and the general public were able to view the proposals. This was intended to give the public the opportunity to contribute to the debate on which of the four would be chosen as the overall winner and consequently the basis of the Master Plan for Orestad. This process of public consultation was stated in *Act on Orestad* (Architectural Review, 1995).

The Orestad Development Corporation produced publications and held two citizen meetings where around 4500 participants took part; however no politicians were present at the first of these meetings. The meetings were held in the period with the exhibition on January 25<sup>th</sup> and February 9<sup>th</sup> 1995 where the design and planning of Orestad which was going to be outlined in the Master Plan was discussed (Orestad Development Corporation, 2003). After the public hearing, the proposal by the Finnish

architects Aaro Arto, Yrjo Rossi, Hannu Tikka and Matti Kaijansinkko was announced as the winner of the competition. This decision was supported by the Orestad Council, who agreed with the choice of the Finnish proposal (City Of Copenhagen, 2003).

Not many proposals had been entered by Danish architects because they had chosen to boycott the competition in protest at the construction of the Orestad project. Due to the range of criticism levelled at the Orestad project, the Environmental and Energy Ministry recommend that nature and environmental organisations be brought more actively into the making of the Master Plan. In 1995, the Orestad Development Corporation published the Master Plan proposal with the support of the Orestad Council, the Danish Nature Preservation Association and the Outdoor Council.

The comments below are taken from the jury's report. First prize (overall winner)  
Aaro Arto, Teemu Palo, Yrjo Rossi, Hannu Tikka, Matti Kaijansinkko; Finland

*The key concept in this entry is the water element laid out in the north south direction. This starts as a lake on the Ny Tojhus site, continues in a number of vigorous turns to the south of the University, runs through the protected wetland areas from where it continues through a canal, ending in a wedge-shaped conclusion to the south. To the north a distinctive Watergate is formed, marking the entrance to Orestad. The concept is beautiful but leaves little room for construction in the area. A number of rectangular building areas are attached to this dominant landscape element. The building areas create contact between the common, Western Amager and existing buildings. This principle creates both urban clarity and a high degree of integration between town and landscape. The location of Orestad Boulevard and the railroad tracks is functional in relation to the plan, and the layout of the Boulevard emphasizes both the water landscape and the built-up area in a very convincing manner... The entry is*

*original and of high artistic quality. It is robust towards change and suggests urban formations of great architectural value. The water element is the basic idea of the entry and should therefore have been developed with the same degree of commitment and originality as the best of the built areas. The question is whether the convincing elegance of the water element will be quite as convincing at eye level (Architectural Review 1995).*

### *Orestad Master Plan*

The Finnish architects of ARKKI won the competition for the master plan in 1995. They proposed the alignment of the metro on the eastern fringe of the area. This would ensure that one of the precious natural areas would be left untouched.

Development would be concentrated on 6 stations and start at 2 areas: Orestad North, with emphasis on universities and housing, and Orestad center with prime potential for international businesses.

In the Master Plan there are some central issues relating to the structure of Orestad. The Master Plan shows the placement of the Metro and describes that it should be visible in the area to underline the public transport, but on the other hand it should not be a barrier between the old and new buildings. The plan shows a master road through the area which is the central Boulevard (Orestad Development Corporation, 2003). The nature considerations include a canal that winds through the northern part of the development and an emphasis on the close relationship between nature and the buildings.

Nature preservation should be taken into consideration through planning (Orestad Development Corporation, 2003).



Figure 6: Orestad Master plan,

Note. From “Orestad Development Corporation”, 2008, retrieved from [www. Orestad.dk](http://www.Orestad.dk)

## *Sustainable Strategies*

### *Integrated Infrastructure Systems For Urban Quality*

The urban drainage system consists of open canals which, with the parks and other green areas, form the overall blue and green infrastructure of the area. Open water and a near-perfect transport system are the key issues for the area and are the *genus loci* of Orestad (Danish Ministry of Environment, 2008).

Orestad is divided into four districts, developed in sequence and linked by The Metro, creating a holistic urban area. The Metro tracks are elevated, so the physical impact on ground level mobility is reduced. At the same time, the Metro has a distinct visible and guiding character. The Metro is the backbone in Orestad traffic system and symbolizes the importance of good public transport.

### *Water*

Orestad represents an innovative approach in terms of water. Here, the distinct use of water for aesthetic purposes is directly linked to the storm water management. Thus, storm water runoff is the main supply for the 10 km of canals that form the unique blue structure of Orestad. The relatively clean runoff from rooftops is diverted directly to the canals, while the less clean runoff from roads is collected in a separate system. A new treatment technology called Dual Porosity Filtration is being developed for the cleaning of road runoff, which will allow that water to supply the canals too.

*Aesthetic purposes: structure and identity of Orestad.*

Water has always been a significant issue on the island of Amager. Orestad is built on former marshland, and since the reclamation of the land was completed in 1964, waterholes, ponds and canals have been characteristic elements of the area. From an early stage, the Finnish master plan suggested the use of open water to provide character and identity to the vast area.

The key notion in the Orestad Master Plan is a continuous body of water, flowing along the full North-South axis of the city. Like the Metro, it connects the four districts, and in one stretch it rushes into the neighboring meadows. A secondary system of district canals, running East-West, links up the neighborhoods and open spaces. In this way, a network of public open spaces – roads, squares and parks, revolves around the blue elements and presents a structure for buildings and architecture, as well as for public life.

By linking the visible water network to the technical management of storm water, water has definitely been a decisive and significant element in the Orestad development plan from day one.

It should be noted, that the water bodies are without safety restrictions. With no fences and barriers, the canals provide opportunities for living with water, not only “close to” water. The various edges of the canals provide different ways to enjoy the water, ranging from quiet contemplation, to lunch with a scenic view. Direct interactions, such as swimming, are, however, not the intention (Danish Ministry of Environment, 2008)

### *Storm water management.*

The canals in Orestad are supplied with storm water runoff from roof tops. If an appropriate treatment technology can be identified, water from trafficked surfaces will in the future also be used for supply.

The separation of storm water into roof and road runoff, followed by treatment of the road runoff fraction for use in the urban environment has never been seen before in Denmark and is presumably also new to the world.

Together with the municipality of Copenhagen, CPH City & Port Development directly supports the development of a treatment technology targeting road runoff. Recently, a new IPR-protected concept for road runoff treatment, entitled “Dual Porosity Filtration” is being tested in the Orestad area.

The treated water needs to meet high standards in terms of suspended solids, heavy metals and organic micro pollutants. A DPF-plant is constructed from several layers of filter materials, through which the road runoff passes in a horizontal flow (Danish Ministry of Environment, 2008).

### *Criticisms*

During this early stage, we can identify two main categories of participants, those who agree with developing Orestad, and those who believe it should not be developed at all.

Groups in favour of development consist of Parliament, Orestad corporation development and the Copenhagen municipality. Their interest in the development was



fundamentally due to their influence as public investors in the decision making process and developing Orestad master plan, as well as their belief to make Orestad as part of a bigger plan which was to make Copenhagen a Baltic economic power.

Opposition to development came mainly from environmental groups such as “Danish society for nature conservation” as well as most citizens of Amager (Gotze, 1997) who believed that it should remain as natural park with recreational amenities and argued that there already were sites available for office development in other parts of Copenhagen, rather than on the island (Gotze, 1997).

Another group were those who opposed the decision making process, consisting mainly of Danish urban planning professors who were concerned about the law (Act on Orestad), which made the project bypass most of the traditional forms of public and civic engagement in the Danish planning system. They warned that this project oriented approach would result in a fragmented spatial development of the region if it were to take place without an overall strategic framework that prioritizes locations (Salet & Gualini, 2007, p.175).

### First Stages of Development

Actual construction has been taking place since 1999. Among other things, Orestad Development Corporation is responsible for the overall road system including squares, the main path system, and areas in connection with the metro, canals and water areas, and the common green areas in Orestad (City and port development 2007).

By the end of 2002 the Orestad Development Corporation had sold 20 per cent of the planned building area. In 2007, about 53 per cent of the planned building area in Orestad has been sold.

Some issues were encountered during these first stages which will be described below.

### *A change in spatial concept*

Initially the area was to be designed to become a top location for international businesses, but it was modified during the first years of development into a more mixed use environment. The original goal of 80 to 90 percent office development was changed to 60:20:20 proportions of offices, housing and facilities (Salet & Gualini, 2007, p.176). The first development stages suggest that it was even more weighted towards housing during the first years than office development.

Jorgensen and Majoor believe this change to be the result of three points. One of the reasons is that the project suffered from lack of private investment in office construction, mainly because of strong competition with prestigious areas such as Copenhagen's harbor front. Since the development was heavily dependent on land sales for financing the project, the urgency to develop non-office parts of the plan seemed inevitable. There were also compulsory attempts from national government to place public institutions in the area. Although this was not in contrast to the notion of the plan, the mere forced character showed the need to cope with financial problems of the project.

The second reason was the high demand for housing, which increased the land prices of housing in relation to office areas. By the end of 2005, 40 percent of the Orestad Syd had been sold to developers and is expected to be completed within 10-15 years, sooner than most critiques believed.

And lastly, not only more housing would be beneficial from a business point of view, but also it would be more attractive area, and improve the project's public image.

#### *Development of the Fields shopping center*

The large Field shopping center which opened in March 2004 was one of the buildings which got the most attention. It was said to be the largest shopping center in Scandinavia with 150 shops in 146000 square meters. Having one of the central locations in Orestad, the strategy of the development was to attract Swedish costumers as well as the residents of the area.

But both the planning process and the constructed shape have created strong criticism. One aspect of this criticism comes from inner city shopping areas, as well as environmentalists which opposed the plan due to the increase in car traffic, which would be in contrast to the project goals of reducing car use and promoting public transportation.

The constructional form was also disappointing, a huge typical box type mall with closed façade, fully oriented towards the shoppers inside. Although the corporation was

in desperate financial need from the sales of parcels, and although it's a valuable destination locally, the disappointment in the aesthetic aspects of the project is shared even by leading development corporation officials (Salet & Gualini, 2007, p.175).

### Criticisms

In their article "Copenhagen Orestad- public partnership in search of market", Jorgensen and Majoor analyze two different layers of practice throughout the project's short history. One is the strategic level- how the project has been framed in public, private and civic spheres of action- and a more operational level of decision making between key actors in the concrete project. They focus on the significance of connectivity between these two layers and suggest that lack of connectivity between the two layers is one of the main factors hindering the recognition of Orestad as a successful new urban area.

### *Strategic level*

#### *Public domain*

The Orestad development has always been more affiliated with public domains of action than with private or civic domains. The development was seen as an opportunity to unlock a difficult political and financial relationship between two levels of government. The national government saw the potential of a market oriented approach

while the social democratic party controlling city government saw it as an opportunity for much needed infrastructure investments.

As well as the governance structure, the aim of the project was also strategically related to a growth oriented and “competitive” rationale, which was to create a European cross border region (Oresund) and shift the economies of scale in exchanging and integrating labor markets and foster exchanges between universities and research institutes between Orestad and Malmo.

#### *Lack of private and civic engagement*

The connection of the project to private investors, willing to set up offices in the area and lack of strategic response is a major weakness in the project since its initiation. This was ironic, since one of the financial foundations of the project was to attract businesses. While Copenhagen has seen favorable economic growth, only one foreign international company was accommodated in the area (Ferring).

This lack of interest according to Jorgensen and Majoor is due to several factors. One is that although the location of Orestad is strategic and well connected to both private and public transport, it lacks some of the location qualities of its competitor, the harbor front, in terms of historic atmosphere and waterfront vistas. Orestad seems to be a typical Greenfield development searching for its identity. While the northern part which is mostly developed is connected physically and visually to the existing built up areas, the

Orestad center part is not connected to anything, which creates a sense of “spatial unease”.

Not only the connection with private domain was problematic, but there were also problems with connecting the project to nongovernmental groups and citizens. There was considerable opposition to the scope of the plan and its environmental impact during the establishment phase (mentioned earlier) which made the project feel like a “running train” that could not be stopped or diverted, therefore most environmental groups and citizens lost interest.

*Operational level:*

The main problem of the project at the operational level was the double goal of the project, seeing the project as both a major infrastructure investment as well as a high quality development area. In other words, two projects were linked in one “package deal”. The naïve expectation of a win-win situation has resulted in a forced development speed and serious demands for financial performance of the area.

Orestad teaches observers that the success of a development depends neither on a successful strategic positioning in domains of governance action alone, nor only on a sound operational approach. It is the connection between the two and the reflective capacity to learn and adapt during the course of the project.

## CHAPTER VI

### MINATO MIRAI 21, JAPAN

#### Introduction

##### *Tokyo bay region*

The area known as “Tokyo bay” is known as the highest concentration of mega projects in Asia (Lin, 2007, p. 73). Although the development of megaprojects in the area was inspired by movements such as metabolism in 1960s, the actual developments started in 1980s and currently there are nearly 40 megaprojects in the region which includes areas in Tokyo, Yokohama, Chiba and Kanagawa prefectures (Figure 7). These ambitious projects with most up to date technology and large scale infrastructure compete with each other in attracting international investments and tourists to the area.



Figure 7: Tokyo bay region

Note. From “City of Yokohama”, retrieved from [www.city.yokohama.jp/en](http://www.city.yokohama.jp/en)

Kenzo Tange's radical plan for Tokyo Bay in 1960 was the first of the futuristic schemes in the area which not only drew attention to land reclamation, but also became an inspiration to the other schemes of mega structures in Tokyo Bay. His plan (Figure 8) used "interlocking highway loops that would expand Tokyo across the Bay, representing the most striking form of mega structural planning" (Lin, 2007, p. 75).

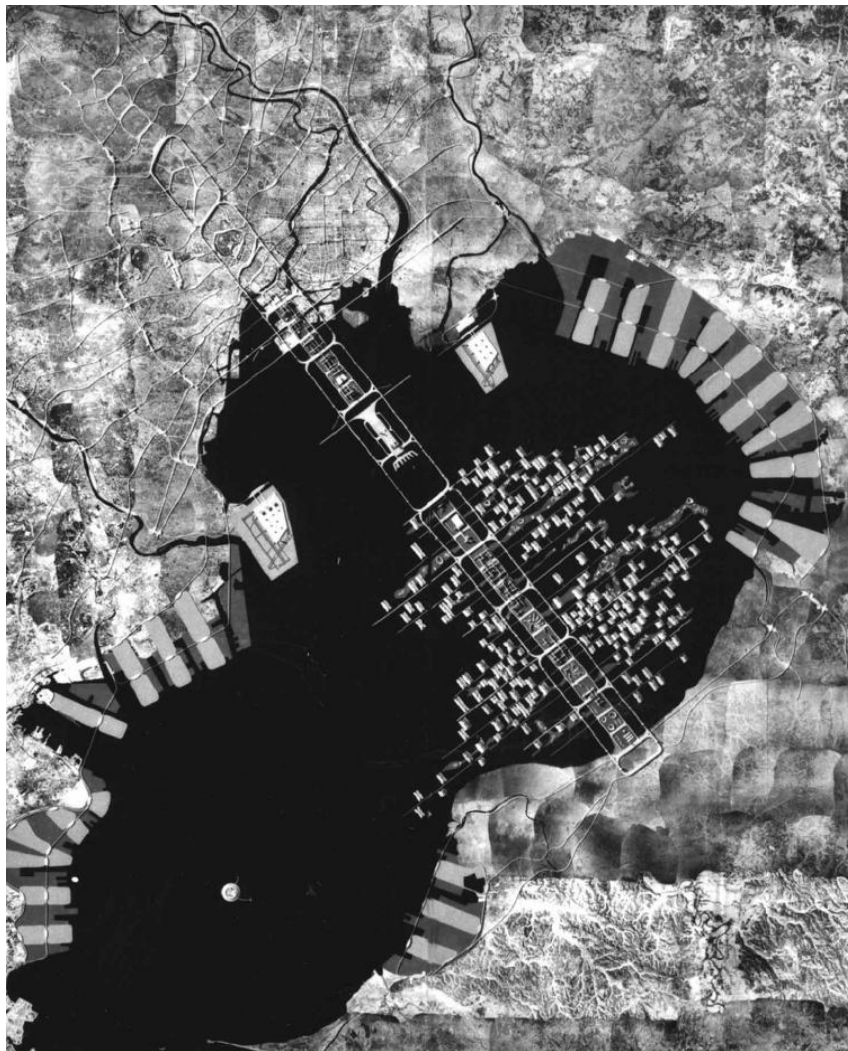


Figure 8: Kenzo Tange 1960 Tokyo bay plan

Note. From "From Mega structure to Megalopolis: Formation and Transformation of Mega-projects in Tokyo Bay", by Z.J Lin, 2007, *Journal of Urban design*, Vol. 12. No. 1, p. 75



Although few of the current mega projects have the architectural characteristics of the futuristic plan of the 1960s, what has remained is the core idea which is the “ambition of creating total environments that serve as model cities of their epochs” (Lin, 2007, p. 75).

### *Minato Mirai 21*

MM21 is one the most successful projects in Tokyo bay region. It is the core idea of Yokohama’s “comprehensive Plan for the 21st Century”, initiated by the municipal government in 1981. The idea of the development was to decentralize business away from Tokyo, as well as revitalizing the port area. According to MM21 Corporation, the vision of MM21 is to become an international cultural center, an information city of the 21st century, and a “city with superior environmental and human touches surrounded by water, and greenery, “as well as preserving historical monuments.

After completion, MM21 is expected to connect an old historic center to a new center which are both isolated downtown districts, and therefore the development plays a significant role in the overall urban quality of Yokohama (Lin, 2007, p. 76).

The socio economic context in which MM21 was initiated lies in a complex transformation of technology, governmental policy and economic restructuring. Yokohama was considered one of the main industrial ports of Japan in the Modern era, and relocation of the industrial port led to an opportunity to redevelop the land and transform from industrial era to information age.

The rocketing value of land in 1980s accelerated this structural transformation and encouraged the development of mega projects in the “rediscovered waterfront areas” (Hee, Viray and Tajudeen, p.3). It also coincided with a series of new policies and incentives by the Japanese government in order to re-direct the urban economy to the tertiary sector, and to prepare its cities for the global competition in the information age.

The land area is 465 acres, 190 acres of which is a landfill. The land was originally owned by heavy industrial companies and used as shipyards and piers before being deserted in the late 1970s (Hee, Viray and Tajudeen, p.3). The working population is estimated to be 190000 people, while the residential population will be 10000.

#### *History of planning policy in Japan*

Japan’s current urban planning system was established by the City Planning Law of 1968, which replaced the old City Planning Law of 1919 (Kidokoro et al, 2008, p. 147). The structure of planning is that the national government sets a framework which is applied throughout the whole nation, and local governments implement the plans.

In Japan, there are two types of local government: prefectures and municipalities. The prefecture designates the City Planning Area (CPA) where the City Planning Law is applied. The City Planning Area may cover several municipalities or a single municipality. The prefecture also prepares the City Planning Area Master Plan (CPA-MP), of which the main function is to designate Planning Areas and Urban Control Area, while municipalities are responsible for designating land use zones (Kidokoro et al, 2008, p. 147). In control Areas, urban development is not allowed. In metropolitan areas, CPA

should be divided into Urban Planning Area and Urban Control Areas, but this is not the case for smaller cities, and this has caused the smaller cities or suburban cities to refuse to be divided into UPA and UCA in order to save the choice of urban development (Kidokoro et al, 2008, p. 148). Figure 9 shows the structure of planning policy in Japan.

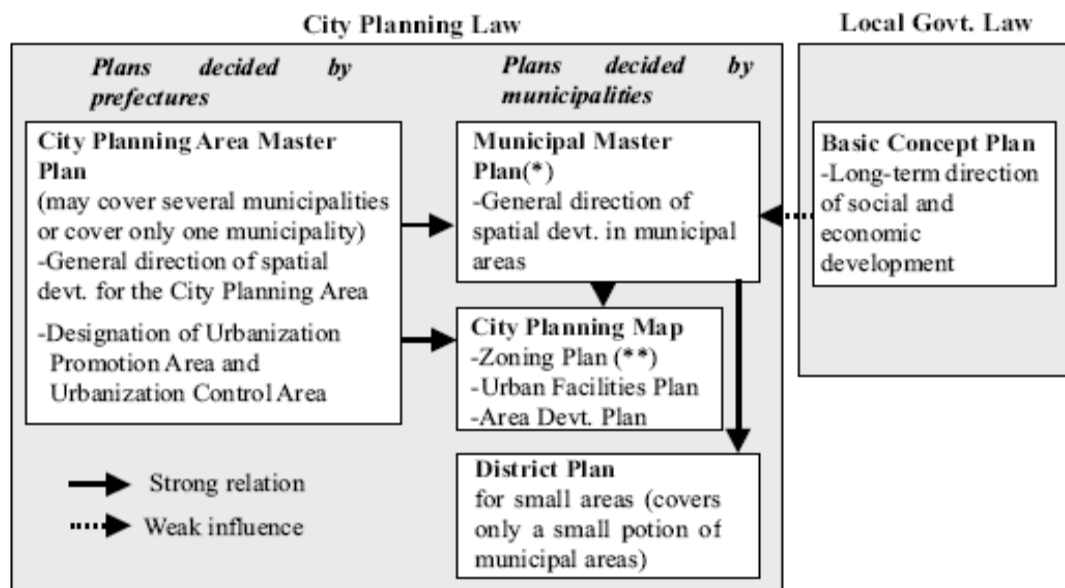


Figure 9: Diagram of urban planning policy in Japan

(\*) The Municipal Master Plan should be in accordance with the City Planning Area Master Plan and the Basic Concept Plan. When decided by the municipality, the Municipal Master Plan as well as the Zoning Plan requires the prefecture's consent.

(\*\*) Zoning Plans for municipalities in the Tokyo, Osaka and Nagoya metropolitan areas are decided by the prefecture.

Note. From "Sustainable City Regions: Space, Place and Governance", by T. Kidokoro, 2008, p. 148

The amendment of the City Planning Law in 2006 was made in response to this problem, although it only regulates the location of large-scale shopping centers. The problems of the location of residential developments remain unsolved (Hee, Viray and Tajudeen, p.5).

Yokohama's relationship to its port had always been important. In 1945 following World War II, 90 percent of port facilities were taken over by the U.S. Military, and finance and trade shifted to Tokyo. In 1952, through citizens' efforts, one of the piers situated right in the centre of old Yokohama's waterfront, was released from U.S. requisition and returned to the Japanese (Hee, Viray and Tajudeen, p.5).

In 1964 the 'Yokohama City Centre Plan Concept Proposal' was proposed, and in February 1965 the vision of a 'Waterfront City' was announced by the mayor, requiring Mitsubishi heavy industries' relocation. By March 1983 the relocation had been completed. The relocation of heavy industries, port and railroad yards beginning in the late 1970s created the potential for the re-use of the 'Inner Harbor' district of Yokohama (Hee, Viray and Tajudeen, p.6). Following this, the early stages of MM21's planning body came in 1981, and in 1984 an official corporation was designated to manage the public-private partnership.

### Project Initiation

After the relocation of heavy industries in the late 1970s, Minato Mirai Corporation was established in 1984 to serve as a third party between public and private investors. As a result, a form of partnership between public and private sectors was formed: the city of Yokohama was responsible for land reclamation, land readjustment and construction of infrastructure and public facilities; the private companies invested in business and housing developments after infrastructure was provided; and the MM21

Corporation was responsible for the planning of the project and the operation of public facilities (Yokohama MM21 Corporation).

Masato Otaka, one of the pioneers of the Metabolist group, became the chief planner of MM21. His Master plan was developed in 1981, and designed a multi-use urban district for 10 000 residents and 190 000 working population. A grid system of street-blocks was envisioned with high-rise buildings dominating the blocks. (Figure 5-4)



Figure 10: Otaka 1981 master plan for MM21

Note. From “From Mega structure to Megalopolis: Formation and Transformation of Mega-projects in Tokyo Bay”, by Z.J Lin, 2007, *Journal of Urban design*, Vol. 12. No. 1, p. 82

The areas along the shoreline would form a continuous greenbelt surrounding the commercial districts. Several urban axes were to be created to direct the gradual

development in phases and to maintain its connections with existing urban centers and railway stations (Lin, 2007, p. 81). The Master plan had a complex circulation system that organized pedestrian spaces, roads, highways and rail lines on different levels.

MM21's street-grid system on the ground provided more choices of urban transportation which represented an initial difference between the mega-projects of the 1980s from the earlier attempts such as Tango's Tokyo Bay Plan which was based on one primary axis.

#### *Current Master Plan*

Although the original master plan has changed through time, the basic framework has remained. There are three main city axes, King Axis, the Queen Axis and the Grand Mall Axis. (Figure 10)

The King Axis and the Queen Axis start from the Yokohama Railway Station directing people flows moving through MM21 and reaching the seashore at the other end, while the Grand Mall Axis intersects with the other two axes in the middle. The significance of these axes is that they serve as open spaces, while having different spatial qualities (Lin, 2007, p. 81).

The Grand Mall Axis in the center is a wide and spacious open mall with extensive greenery, linking a series of cultural destinations, while the Queen Axis in the south is a vibrant inner mall that moves through several large commercial spaces. The King Axis in the north is an open mall that links diversified land use zones before reaching the seashore. The important point to note is that these are all malls, and this

shows the amount of attention paid to retail development, designing them as elements of the connectivity between various points within the overall development.

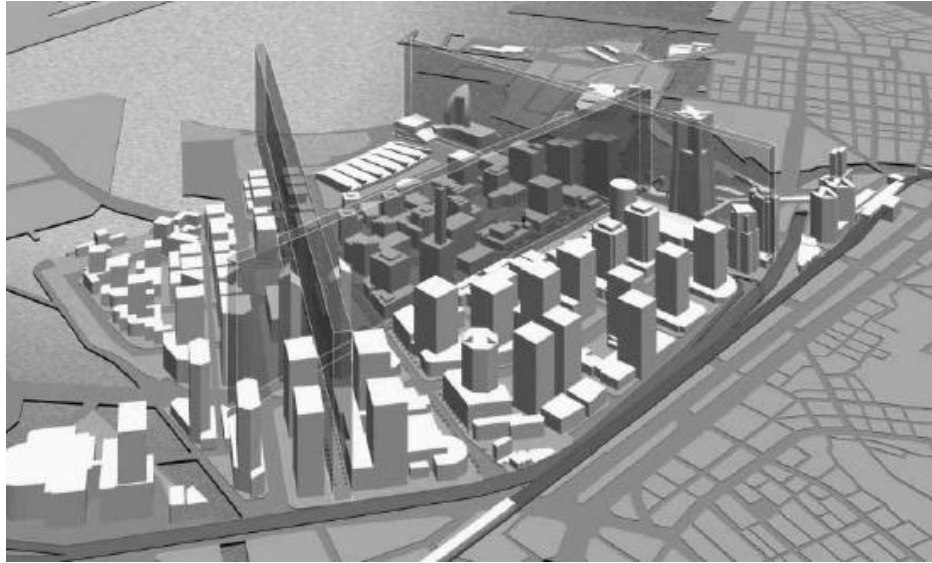


Figure 11: Diagram showing the three city axis

Note. From “From Mega structure to Megalopolis: Formation and Transformation of Mega-projects in Tokyo Bay”, by Z.J Lin, 2007, *Journal of Urban design*, Vol. 12. No. 1, p. 83.

There are several features which distinguish the development from other similar large scale projects. One of these features is MM21’s solution to break away from Japanese cities’ notorious development pattern for a more orderly way of organizing urban growth. Another difference is in the use of open space, which played a significant role in the planning. A Variety of parks, plazas and waterfront promenades that give the opportunity for people to interact with nature, parks and greenery accounts for 115 acres or one-quarter of the total area (Lin, 2007, p. 85), while Tange’s Tokyo Bay Plan designed the waterfront areas for industrial uses. Therefore the original industrial facilities in the port of Yokohama have been transformed into places of entertainment.

In the project, there is heavy emphasis on commercial and retail development. The two biggest malls are Landmark Plaza and Queen's Plaza Yokohama, associated with the Landmark Tower and the Queen Square. Alongside these linear malls are plazas and open spaces, which provide places for art performances and public events, and link further to the parks.

### Development Process

The "Basic Agreement on Town Development" was reached in 1988 to formalize decisions made by landowners and MM21 Corp. It was also the document through which the Town Development Council was established as the agency responsible for implementation of the agreement (Hee, Viray and Tajudeen, p.3). The objective of the "Basic Agreement" was "to ensure that all parties involved shared a common understanding" on town development "that would be promoted harmoniously" (Hee, Viray and Tajudeen, p.3). This went down to the level of specific aspects of each block in MM21 such as "functions, spaces, transportation routes, systems operation and town formation".

In the 1990s, the pace of megaproject developments in Tokyo Bay was reduced significantly due to economic downturn and a decrease in demand for office space. The city of Yokohama the MM21 Corporation carried out economic incentive plans to keep the project moving and to encourage the relocation of business to this area. During this period, since less private investments were coming in, the MM21 Corporation focused



more on the construction of cultural facilities and open spaces. This was an inclination that the project was “heavily reliant on major investors” (Hee, Viray and Tajudeen, p.4).

The Corporation also hosted various large events to attract tourism. International fairs such as YES fair (Yokohama Exotic Showcase) and WOMAD (World of Music Arts and Dance Festival) were carried out in order to draw attention to the development and attract investors and business to the area.

The investments in cultural and public facilities also brought the area great vitality and urbanity, and allowed the project to continue to develop into the next economic cycle (Hee, Viray and Tajudeen, p.5).

## CHAPTER VII

### MARKET ORIENTED PROJECTS AS NON MODERN REGIONAL PRACTICES

#### Introduction

I chose to study the two market oriented projects because they are based on Ecological modernization assumptions. What I will argue in this chapter is that although the theory of Ecological modernization is moving towards a nonmodern perspective, this is not necessarily the case when it comes to practice. Such practices seem to be loyal to the first stages of Ecological modernization. In fact, both projects have inherent conflicts within their decision making process as well as the operational level that make it challenging to see them as non modern regional practices. The contradiction which I believe the nonmodern perspective applies is that, even though it presents a set of principles- such as technology being a “socially construct”- but it also says that we should accept the diversity of pathways and celebrate it. So the question becomes, can a market oriented project which does not necessarily comply with the principles expressed by Moore and Guy also be considered a “sustainable story line”?

Before starting the analysis, it is important to note that Moore’s theory is based on American Pragmatism. This approach believes that “the test of knowledge was not “truth” but “utility”, which is to say that within the community, being scientifically correct is less helpful than being successful” (Moore, 2007, 2).

He shares the idea of Hajer in viewing sustainability as a “story line or plot- not a scientific condition or concept- that tends to show up first, or more powerfully in cities

where citizens have historically engaged in public talk”. According to Moore “if stories are received as utopian fantasies, unrelated to daily life, characteristic behaviors and plausible outcomes, they will be rejected by citizens” (Moore, 2007, 7).

### Conflicts

In his article “Green cities, growing cities, just cities?” Scott Campbell identifies various conflicts which rise in the common accepted definition of sustainability, known as the three E’s (Environment, Economy, and Equity) (Campbell, 1996). He argues that although in an ideal world, all three could be achieved, in reality the planner will be limited by physical and professional constraints and therefore end up neglecting one or two of the three elements. Figure 11 shows the diagram Campbell uses for defining these conflicts.

The economic development planner sees the city as a location where production, consumption, distribution, and innovation take place. The city is in competition with other cities for markets and for new industries.

The environmental planner sees the city as a consumer of resources and a producer of wastes. The city is in competition with nature for scarce resources and land, and always poses a threat to nature.

The equity planner sees the city as a location of conflict over the distribution of resources, of services, and of opportunities. The competition is within the city itself, among different social groups (Campbell, 1996).

Planners address three fundamental priorities:  
And three resulting conflicts...

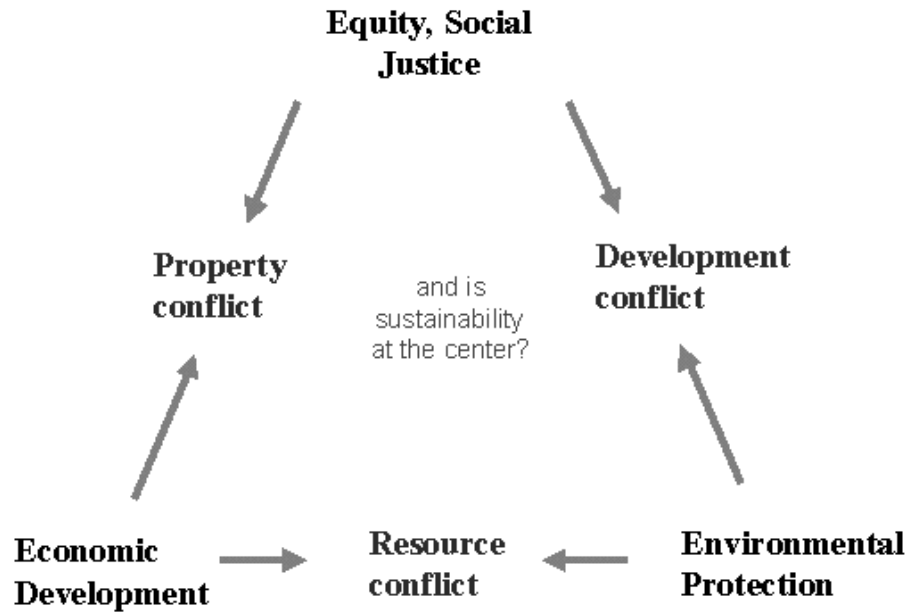


Figure 12: The triangle of conflict goals of planning

Note. From "Green Cities, Growing Cities, Just Cities? : Urban Planning and the Contradictions of Sustainable Development" By S. Campbell, 1996, Journal of the American Planning Association, Vol. 62, No. 3. p. 298

### *The property Conflict*

This conflict arises from competing claims on uses of property. This growth-equity conflict is further complicated because each side not only resists the other, but also needs the other for its own survival. The contradictory tendency for a capitalist, democratic society to define property (such as housing or land) as a private commodity, but at the same time to rely on government intervention (e.g., zoning, or public housing for the working class) to ensure the beneficial social aspects of the same property, is what

is called the "property contradiction" ( Campbell, 1996). Indeed, the essence of property in our society is the tense pull between these two forces. The conflict defines the boundary between private interest and the public good.

This conflict is clearly seen in MM21. In this project social goals were tempered heavily by the necessity of fulfilling capitalist requirements for growth, and the initial premise for MM21 as a beautiful new waterfront and landscaped environment for Yokohama residents became dominated by concerns for investment and physical growth (Hee, Viray and Tajudeen, p.4). It seems that MM21 Corporation was “ambivalent” towards the provision of (public) housing. The Corporation indicated that “the introduction of residential housing was prone to cause friction with the other functions. There would be many aspects of housing which could actually interfere with the accumulation of urban functions” (Hee, Viray and Tajudeen, p.6). It was hardly surprising that the residential community as conceived in MM21 had tended towards economic elite, MM21 Corporation referred to such high-rise apartments as “city centre style housing”.

Therefore it appears that the provision for housing in MM21 will remain highly inadequate, given that the plan as of 2003 is to have only 10,000 residents, as opposed to 190,000 workers. This great imbalance between projected working population and actual live-in community means that a great burden would be placed on the transport system of Yokohama to move approximately 180,000 commuters daily. This is one the main criticisms against the development (Hee, Viray and Tajudeen, p.5).

### *The Resource Conflict*

According to Campbell (1996), in this conflict “business resists the regulation of its exploitation of nature, but at the same time needs regulation to conserve those resources for present and future demands” (p.299). The conceptual essence of natural resources is therefore the tension between their economic utility in industrial society and their ecological utility in the natural environment. This conflict defines the boundary between the developed city and the undeveloped wilderness. This boundary is not fixed; it is a dynamic and contested boundary between mutually dependent forces.

We see this conflict rise at the beginning stages of the Orestad Development, where there was significant criticism raised of developing in natural preservation area. Indeed, this decision made by the developers earned the mistrust of the people of Amager and they eventually lost interest, leading to the lack of private investments. This contributed to one of the downfalls of Orestad, and holding public debates on the master plan did not help the situation, because citizens believed that they were not being heard.

### *The development Conflict*

If the property conflict is characterized by the economy's undecided interest in providing at least a continuous existence for working people, and the resource conflict by the economy's ambivalent interest in providing sustainable conditions for the natural environment, the development conflict stems from the difficulty of doing both at once

This may be the most challenging conundrum of sustainable development: how to increase social equity and protect the environment simultaneously, how could those at the bottom of society find greater economic opportunity if environmental protection mandates diminished economic growth?

According to Campbell, poor urban communities are often forced to make the no-win choice between economic survival and environmental quality, as when the only economic opportunities are offered by incinerators, toxic waste sites, landfills, and other noxious land uses that most neighborhoods can afford to oppose and do without.

Taking a step further, Moore suggests that these are not the only conflicts that are raised in the practice of sustainability. He raises various “dilemmas” (Moore, 2007, p.193) to understand the characteristics of a successful sustainability story. What is important to note, however, is the fact that in all of the dilemmas, citizen participation and social and cultural views are of key concern. The case studies described earlier have had limited success in the area of citizen participation. In the case of Orestad, decision making process shifted from a more open debate to a public authority, top-down approach which raised a lot of criticism. In MM21, the notion of mega structures itself, lied in the Metabolist movement, which believed in top-down approach towards planning. Although they applied a mediator between public and private investors, the notion of “negotiation” and “public debate” was not implemented in the case.

In these case studies environmental sensitivity is claimed, and each uses multiple assessment methods such as MEMPD or CASBEE to justify its approach. The core

concept of designing MM21 was Brownfield redevelopment and environmental clean-up of the former industrial port, while in Orestad storm water management played a key role in their ecological approach. But if we accept the need for bringing in public conversations into the definition of sustainability as Moore claims, none of the cases prove to be sustainable, as both cases seem to return to earlier stages of ecological modernization where economic growth has the priority over social and cultural norms. I believe that this observation brings in key concerns:

- The fact that although in theory, ecological modernization has tried to incorporate more participatory actions to the discourse; this has not been fully realized in practice yet.
- Non modern regionalism presents a key contradiction: they do not deny a rationalist approach, but yet call for citizen participation and social concerns to be the defining element of the success of a story. So if we see it in this way, these case studies cannot be considered a non modern practice. So although Moore suggests that he is not defining sustainability but rather celebrating the diversity of approaches towards it, it may be that he is defining what sustainability is *not*, and what is not sustainable in Moore's concept of nonmodern regionalism, is the lack of attention to local knowledge or an unsuccessful negotiation between the conflicts presented earlier.
- This leads to a very fundamental question: is it even possible to reach the center of the 3 Es? Moore suggests that non modern perspective is not about what must be, but what "may be" (Moore, 2007, p. 7) He believes that sustainability is like a



test which might be successful in the future. He argues that the “sustainable city may, in the end, prove to be a utopian project” (Moore, 2007, p.196). Campbell (1996) who also believes that the solution would be a successful negotiation between conflicts, defines the success of this negotiation:

*Planners are likely to have the best success in using conflict resolution when there is a specific, concise dispute (rather than an amorphous ideological clash); all interested parties agree to participate (and don't bypass the process through the courts); each party feels on equal ground; there are a variety of possible compromises and innovative solutions; both parties prefer a solution to an impasse; and a skilled third-party negotiator facilitates (p 305).*

According to Campbell, the best resolution strategies seem to include two areas of compromise: the procedural (each party is represented and willing to compromise); and the substantive (the solution is a compromise, such as multiple land uses or a reduced development density). Whether this can be achieved in practice is yet to be seen. What is emphasized by Campbell is the fact that the mere use of sustainability tools and assessment methods does not necessarily mean that the projects have sustainable outcomes.

Another strategy that Campbell proposes is that we should bridge the languages of economics, environmentalism, and social justice. So the planner would become a “translator” (Campbell, 1996) but be cautious to prevent a single language from dominating the debate.

## CHAPTER VIII

### CONCLUSION

The thesis started by focusing on the theoretical aspects of nonmodern regionalism and its propositions in relation to modern and post modern views. Ecological modernization as one of the most common approaches to sustainability was researched with respect to its position to nonmodern regionalism. What was found is that there are notions emerging in the theory which is moving it away from the modern/postmodern axis and bringing it closer to a non modern perspective, but the criticisms against the theory are still based on modern and postmodern views. That's where the term "nonmodern" brings lots of potential to include the theories such as "reflexive ecological modernization".

An important element of the non modern perspective is its pragmatic approach. I argued that although it is said that non modern regionalism does not criticize any approach but values the variety and diversity of ways to reach sustainability, it is in a way dismissing practices who do not employ local knowledge within their planning and design as being "successful". So perhaps it is drawing the line somewhere and in this way could be seen as moving the theory away from extreme relativist approaches.

I believe there are number of challenges in the non modern perspective. One of these challenges is the idea of change and progress. We should be cautious in the approach as it tends to be too holistic and include everything, which might make it a justification that any claim is "sustainable". Any approach could claim to be sustainable

because it's an "interpretation" of nature in a particular way. According to Dunlap and Catton "...if all truth claims have validity, then there is no basis for endorsing some over others, and thus no basis for becoming proactive" (Woodgate & Redclift, 1998, p.7).

Another challenge is the gap that exists between theory and practice. Citizen participation is indeed emphasized in the theory, and it is the essential part of being a successful sustainable story. But to what extent are the conditions really applicable in reality? This is a fundamental challenge, as what is being said is not necessarily what is done or is even possible to do in reality. What happens to contexts which do not necessarily employ public talk as their traditional planning processes? In his book, "alternative solutions to sustainable city", Moore suggests that it is possible to see public consultations in various forms, even in the contexts with less open procedures. But this would undermine the concept of progress and change. The theory at best places extreme optimism and hopefulness in the honesty of the participants and power relations. I believe this does not happen in many cases. Misplaced optimism creates the opportunity of misusing the process and taking advantage of having no boundaries or limitations to what success really means.

Another challenge to the theory is the idea of knowledge and expertise. What role do experts really have in such a vision? I believe that in this challenge, the theory is becoming more close to relativist and constructivist approaches that ignore the rationality basis of knowledge and focus on interpretations and cultural implications too much.

There is no doubt that sustainable concepts are various and diverse, that using assessment methods and the technocentric approach alone is not adequate to bring a successful

practice of sustainability. Because of the primary fact that architecture and planning is making environments for people to live and work in, citizen participation in earlier stages is gaining more attention and more theorists are bringing solutions to integrating social features. How practical these solutions are, is yet to be seen.

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