

# The Studio: Operative Urban Practice from Research to Speculation

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**ABSTRACT:** The paper addresses the extra-disciplinarity of cultural-environmental research and design speculation as an area ripe for the critical engagement of globalized architectural education and practice. Students from different disciplines (architecture, planning, urban design, anthropology, engineering, and art) studied ongoing urban and spatial transformations occurring as climactic, socio-political, and economic pressures collide in Northern mega-regions. They focused on understanding architecture and its interdependencies on resources and agencies/institutions within the larger territorial patterns of globalization. Investigations of the spatial, infrastructural, and typological systems emerging from a broad array of interrelated forces--e.g., global finance, industry and trade; digital media/technologies; social discourses; environmental/geophysical phenomena; geo-political strategies--prioritize crises and controversies bearing critically on the role of ethical design. The works demonstrate a more general shift in architectural thinking, one that points to the emergence of what may be articulated as a new operative practice that reengages Manfredo Tafuri's original concept of operative criticism through the engagement of architecture with the contradictions of its capitalist mode of production today.

**KEYWORDS:** Urbanism, post-disciplinary, globalization, operative criticism

## 1.0 INTRODUCTION

This paper reviews a paradigm shift towards new understandings of the transformation of the environment through architecture, and its meaning for the education of the architect in terms of representational practices. It revisits Manfredo Tafuri's original framing of an operative criticism engaging architecture with the contradictions of its contemporaneous capitalist mode of production to review the studio as a model of practice relating design and thinking on the larger environmental perspective. Student projects viewed as part of this general shift in architectural thinking are reflected upon and set into their contexts.

The premise is that we can recuperate the notion of environment, or *ambiente*, from designer and thinker Tomás Maldonado, who, in his book *Design Nature and Revolution toward a Critical Ecology* (1970), uses the term environment to mean not just nature - but an expanded state in which technology, culture, and global ecosystems might be visualized and modeled as mutually generative processes and forms. Such an integrated notion of environment can be relevant today as we understand the political and ecological systems that mediate our interactions with them.

## 1.1 Practice

Maldonado's reflections on pedagogy were written during a time of unsettled political struggles. His writing is linked to the rise of 'environment' as a socio-political, technological, and aesthetic category the late-20th century post-WWII era. In architecture, the building up of the concept of environment during this period is predicated on a series of canonic highly exclusive events occurring at the Museum of Modern Art in New York - where, in the members letter entitled "The Museum of Modern Art and the Man-made Environment: An Interim Report," Emilio Ambasz, Curator of Design, launched the museum as a protagonist in contemporary debates on 'environment'. At a time when:

concurrent with advances in the sciences, the development of a new world-view that conceives of systems as dynamic and in a constant state of change has driven designers away from concern with isolated elements toward a focus on processes

Ambasz sought "new ways of comprehending and acting upon the processes that give form to our present environment." (The Museum of Modern Art 1970) W. Whereas established definitions of design focused on discrete solutions in the form of a building or object created by individual designers, the new designer:

beholds [the environment] as a result of the processes of interaction | the physical elements he (sic) designs and society's patterns of rules and behavior. The current changes taking place in design research, practice, and education can be seen, therefore as attempts to develop new design approaches which can deal comprehensively with all factors involved ... These have greatly expanded two important concepts: first, the notion of what constitutes design and the extent of its relation to the socio-economic environment; and second, the modes by which the designer beholds his environment and the methods by which he attempts to act upon it. (The Museum of Modern Art 1970).<sup>1</sup>

The aim of design would thus be to produce neither a final image or determinate form but rather to facilitate an interdisciplinary framework for continual negotiation that would remain open to contestation and adjustment. This 'continual negotiation' would take place in a new type of educational institution (never achieved) called the University of Design and Development. A two-day MoMA international symposium entitled *The Universitas Project: Solutions*

for a Post-Technological Society elaborated on a "new type of University concerned with the evaluation and design of our man-made 'ilieu' a 'self-modifying ethical system' predicated on 'dynamic concept of a complex systemic indeterministic design to operate in a constant state of reform and adaptation to other' systems."<sup>2</sup>

The exhibition titled Italy The New Domestic Landscape: Achievements and Problems of Italian Design also opened at MoMA in 1972. In the catalog of the exhibition, in his essay "Design and Technological Utopia," Tafuri ironically lamented the architect's lack of agency in face of cybernetic communication systems logics. He argued that the Italian radical architects (Archizoom, Superstudio) had failed in their attempts at institutional transformation and that their work only threatened to enhance the commercial systems aligned with capitalist forces. (Tafuri 1972).

Yet Tafuri also wanted to recognize that critical engagement could operate neither nostalgically (mythologically) nor through assimilation to market imperatives. Grouping together the Italian radicals with the camps of the American neo-avantgarde emerging with in the 1972 publications of *Five Architects* and *Learning From Las Vegas*, he questioned the goals of the resemanticization of architecture: "But what does the recovery of the semantic mean? Why establish, today, such an objective, and of what ultimately must the architectural sign 'speak' of again?" (Tafuri 1972).<sup>3</sup> He said that any "action without a subject" left the architect simply a cog in the cybernetic/informational capitalist machine. Tafuri had already clarified that with the decline of the profession there was a corresponding lack of "an institutionally defined role" for an alternative "technology of the working class." In the preface to his early essay *A Critique of Architectural Ideology* published in the Italian workers journal *Contropiano*, he states that the possibility for critique in an unspecified future depends on the demystification of the systems supporting the discipline:

Reflection of architecture, as a critique of the concrete ideology 'realized' by architecture itself, can only push further, and strive for a specifically concrete dimension in which the systematic destruction of the mythologies sustaining its development is only one of the lectures ... But only the future conditions of the class struggle will tell us whether the task we are setting ourselves is that of an avant-garde or a rearguard. (Tafuri 1976)

Tafuri sought to articulate a way for architects to contest the power of capital and to underline the importance of political perspective, and the possibility of an operative criticism. In the preface to *Architecture and Utopia: Design and Capitalist Development* he writes that "the new tasks given to architecture are something besides or beyond architecture. In recognizing its situation... I am expressing not regret but neither am I making an apocalyptic prophecy," and, "a lucid awareness of the present situation is necessary." (Tafuri 1976). His reflections on architecture's capacity to maintain a social consciousness within late capitalism are instructive:

From the criticism of ideology it is necessary to pass on to the analysis of techniques of programming and of the ways in which these techniques affect the vital relationships of production. For those anxiously seeking an operative criticism, I can only respond with an invitation to transform themselves into analysts of some precisely defined economic sector, each with an eye fixed on bringing together capitalist development and the processes of reorganization and consolidation of the working class. (Tafuri 1976)

## 2.0 PEDAGOGY

New multi-disciplinary pedagogies were developed to address the relation of built/physical and human/social environments. The fields of including environmental psychology, human behavior, human geography, environmental behavior, general systems theory established a new focus on "users." The interest in everyday "users" was part of the critique of the top-down, expert-centered professional practice associated with 1950s High Modernism. A number of authors have substantially examined how the process of understanding the environment became a relative possibility rather than a predetermined entity during this time.<sup>4</sup> One of the key figures in the institutionalization of environmental studies and design was Christopher Alexander who founded the Center for Environmental Structure at Berkeley in 1967. His writings addressed questions of translation in arriving at environmental form or structure when working from sets of observed data about human behaviors. He writes:

Forces generate form. In the case of certain simple natural systems this is literally true. In the case of complex man-made systems it is a metaphor. (Cristobal Olave 2021).<sup>5</sup>

The first exhibition of Landscape Urbanism in 1997 at Storefront for Art and Architecture in New York City presented new conceptual approaches for architecture to address the large scale urban and landscape environments. Originating in North American academia, Landscape Urbanism and its extension Ecological Urbanism were intended as alternatives to object-fixated modernist design and traditional urban form that had failed to intervene successfully in the dynamic and complex urban metabolism. Their goal was to shift the focus from architecture to landscape as the organizer of space. In numerous publications landscape is positioned in contrast to architectural design principles like stability and control - framed as a continuous horizontal field of form that is large-scale, organic, open-ended, adaptive, flexible, and self-regulating in contrast to normative architectural principles of stable form. (Mostafavi and Najle 2004). In contrast to post-war deterministic approaches, Pierre Belanger, one of the main protagonists of the movement, states: '(i)n the wake of over-planning, over-regulation and over-engineering of the past century', future design has to be oriented towards 'the recoupling, re-configuration, and re-calibration of these processes', through 'the re-design of infrastructure.' (Bélanger 2013a), (Bélanger 2013b). Replacing the rationale of the engineer, Belanger (a PhD in mechanical engineering) aimed to move engineering to urbanism. He endorsed infrastructure that was 'post-euclidian' and 'post-carbon.'

The claims of Landscape Urbanism can be framed by the historical role of engineering in social and technical networks for controlling urbanization processes. Antoine Picon highlights how French engineers had:

an enduring connection with social preoccupations and were somewhat messianic in their approach of technology as well as in their ambition to use it to service society. (Picon 2007).

Examples of mixing social concerns with variables of the biological environment variables include the diagrams of epidemiologist John Snow, whose work on the mortality of cholera in England in the mid-19th century related temperature gradients and water supply systems with urban mortality. (Koch 2'11). Ian McHarg's ecological systems mapping approach to landscape and regional planning at University of Pennsylvania is the predecessor of Landscape Urbanism and Ecological Urbanism. Landscape architect James Corner makes a methodological shift from top-down to bottom-up logics and processes, reacting against the top-down, reductionist and authoritarian practices in engineering and planning to focus design on internal systemic mapping that would uncover spatial and temporal relations. He writes:

In making visible what is otherwise hidden and inaccessible, maps provide a working table for identifying and reworking polyvalent conditions; their analogous-abstract surfaces enable the accumulation, organization and restructuring of the various strata that comprise an ever-emerging milieu. Mapping differs from 'planning' in that it entails searching, finding and unfolding complex and latent forces in the existing milieu rather than imposing a more-or-less idealized project from on high. (Corner 1999).

## 2.1 Project

The aim was to educate a generation of designers with capabilities to develop global perspectives and understanding of design in its larger worldly and planetary frameworks. Projects emphasize reciprocity between the local and global pressures acting on images, objects, places, and people. The course addresses the value, role and methods of "research" in the context of design studio and the ability to communicate effectively.

An interest lies understanding how conventions and assumptions of design practice and processes at the urban scale are changing and to begin to clarify what we mean by practice, disciplinary, or research, and consequently how teaching and research methods can have impact and relevance on urban practices and design. Mundane terms like professional and disciplinary imply controlled and regulated approaches. The term urbanism has been used to signify interest in the agency of architecture to affect the larger scale. Some of the issues with urbanism are that urbanism often did not take a systematic approach; had no professional qualifications and was not recognized as discipline.<sup>6</sup>

At Aalto in 2014 I was tasked with studio between the scales of housing design and urban and regional planning. In collaborative discussions we discussed the studio as a place for dialogue on the urban beyond Finnish cities; the need to elaborate the realm of architecture into the urban; and the development of an approach to framing urban design problems in terms of the relationships of culture and environment. The courses were focused on representation across the scales implicated in city making as well as between theory and practice. Questions were about how rethink site program, scale and context to respond to 21st century urbanization and its many forms.

The 5-week studio project addresses the fundamentals of representation; rigorous, explorative research, speculation, and design; and being comfortable working within unknown futures and fields of knowledge. A broader context is given. Students are responsible for addressing site, program, and type of built form and positioning each through the lens of the studio's premise. The studio's work was developed in response to both the vast scale and to the micro-conditions and fabric of contested and often eviscerated landscapes. Collectively the projects in various ways sought to conserve or re-activate the landscape through architectural tactics. The studio engaged landscape architectural methods, urban design methods, planning methods, geographical methods on ecology, environmental science and legal thinking.

The studio considered larger multi-scalar physical social and temporal environments impacted by design actions. Program and use were used to instigate effects beyond the project itself to bring in questions of transformation, interacting processes, and migrations of knowledge beyond disciplinary silos. Forces due to infrastructural connections, development models, and social agents were considered with their effects that were visible and invisible, physical and non-physical. By thinking about conditions rather than a program, by addressing notions of leverage (or levers that would produce actions) and metabolism instead of construction, and by conceiving of site as an unbounded condition, the students became attuned to environmental dynamics and disparities. They realized that they were already starting to design by focusing on place and culture-specific local conditions, metabolism, and opportunities for leverage opportunities.

The course begins with seminar with an intensive reading and discussion component to open a discussion on a geopolitically cosmopolitan global urbanism. (Authors have included Agamben, Gottman, Hardt and Negri, Foucault, Scott, and others.) The premise is that an intertwined more connected world comprised of local and global accountability at certain moments in time and place can provoke a more critical understanding of architecture and design's role in society. The drawings concerned a kind-of deep mapping - drawings that are hybrid-and intelligent - more than 2-D image of places, names, topography. An interweaving of scales, drawing conventions, types of information. If a map is a cartographic abstraction then deep mapping is as much a process of archaeology as cartography. Representation was framed as a key mode of conceptual operation, that how to legibly portray and clearly communicate dynamics that are not just spatial but also temporal and relational entails more than compositional or graphic skill. Rich bio-geopolitical contexts can be settings from which to think about design and environmental change. The hope is that architectural representations and techniques can provide evidence or ways to think about or intersect architecture with environmental conditions, land justice, commons, and property beyond boundaries that are being theorized in other fields such as earth jurisprudence and legal scholarship

As the modernist institution of architecture shifts to an ecological ethos of longevity, maintenance, repair and stewardship, questions of what environmental conditions can be made visible, why should they be visualized and/or experienced; and what are their temporal and scalar implications are important and can be addressed in the studio

pedagogy that exceeds the buzzwords of sustainability discourse and the haziness of post-occupancy studies and the 1970's conception of "users."

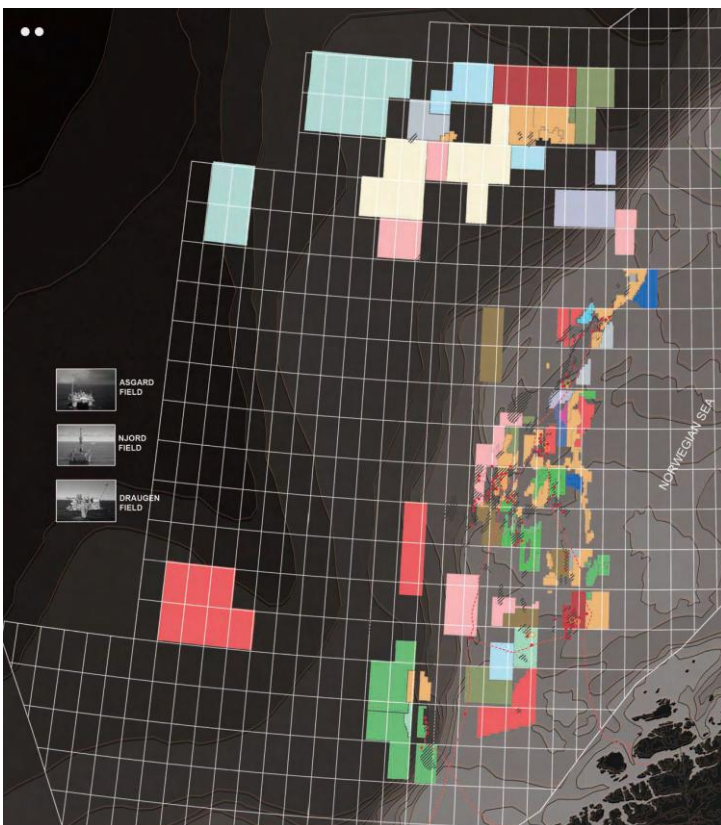
### 3.0 STUDENT WORK



**Figure 1:** Absolute Arctic. Source: (Anastasia Gluhkova, and Heini Emilia Saari 2014)

#### 3.1 Absolute Arctic (Figure 1)

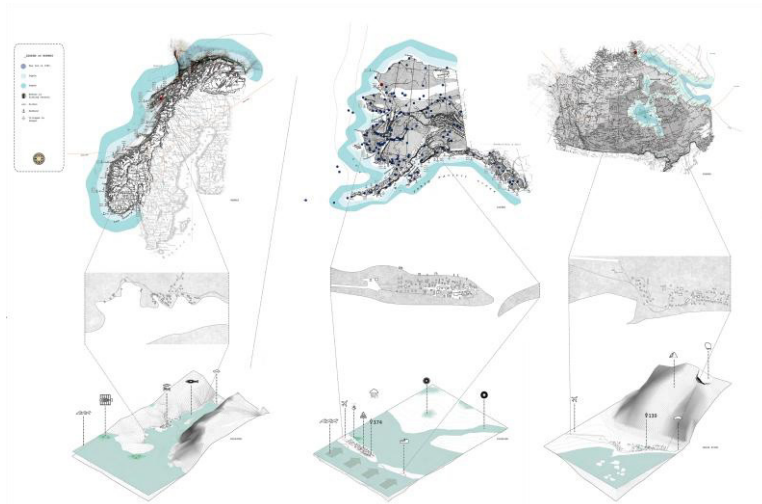
The project inserts a signal jammer powered by wave energy the vicinity of the North Pole to create a space of disconnection. It's location is not definite, as it circulates in the ocean with a sea current. All GPS and radio signals are blocked in the area so that the space is invisible and can only be perceived through the lack of signal. The project reintroduces a glimpse of the unknown and unpredictable in the Arctic by reflecting the threshold of an iceberg into the void space of the signal-less area. With GPS, the location of existence is always marked in relation to objects and coordinates. In this project, the passenger taking the risky journey would be in pure nature, absolute Arctic that does not relate or belong to any country and only exists relative to this awareness. Project by Anastasia Gluhkova and Heini Emilia Saari.



**Figure 2:** Petro-Urbanisation. Source: (Tommy Degerth and Stefanos Theodorou 2014)

#### 3.2 Petro-urbanisation (Figure 2)

This study compares the intertwining of the oil industry and the education sector in Stavanger, the nominated Energy Capital of Norway the development of Hammerfest, a small fishing town in the Norwegian Arctic. By looking at land in a territorial way you start to see larger patterns of political boundaries and start to think th't design shouldn't focus on just one of these boundaries. Project by Tommy Degerth and Stefanos Theodorou.



**Figure 3:** Cryosphere. Source: (Tomas Nordstrom, Daniel Seyfang, Biel Susanna Viladot 2014)

### 3.3 Cryosphere (Figure 3)

The students collected, combined, and connected the top-down set of changes that are occurring in the cryosphere. They focused on Kivilina, a town that is home to the native Alaskan Iñupiaq community predicted to vanish in by 2025 and as such would be the first town to succumb to sea-level rise. The village situated on a barrier island along Alaska's west coast about 80 miles above the Arctic circle is one of several native coastal villages dealing with accelerated erosion, vanishing sea ice, melting permafrost. "Piece by piece, existing buildings are exchanged for new ones, which will be placed on top of a platform based structure that will be lifted up and float according to the rising waters. This small scale project could be the first in an overall operation that would allow us to catalogue multiple solutions and provide all the villages with suitable systems. Project by Tomas Nordstrom, Daniel Seyfang, and Biel Susanna Viladot.

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## ENDNOTES

<sup>1</sup> In *Architecture and Techno-Utopia*, Felicity Scott identifies the emergence of a post-industrial conception of the urban environment - one that is "part of a significantly enlarged territorial scale with a new set of conceptual tools or methods involving systems theory, cybernetics, information theory, and semiology, in which design would be connected to new media formats, materialities and processes, institutional logics, and relations between human subjects, all functioning within larger environmental and technological and information ecologies in a new, human centered worldview." (Scott 2001, 90)

<sup>2</sup> The symposium included philosophers, designers, architects and scientists — including Jean Baudrillard, Umberto Eco, Hannah Arendt, Richard Meier, and Christopher Alexander — who reflected on the new parameters for design in a dynamic interactive world.

<sup>3</sup> "All the intellectual anti-consumer utopias that seek to redress the ethical distortions of the technological world by modifying the system of production or the channels of distribution only reveal the complete inadequacy of their theories in the face of the actual structure of the capitalist economic cycle."

<sup>4</sup> In architecture programs such as at MIT, University of California Berkeley, University of Texas Austin, Pennsylvania State University, Cambridge University, and Ulm Hochschule für Gestaltung new academic programs departments of environmental design were founded. See Arindam Dutta, *A Second Modernism: MIT Architecture and the Techno-Social Moment* (2013); *Design on the Edge A Century of Teaching Architecture at the U. of Calif Berkeley 1903-2003*, Eds. Waverly Lowell et alia (2009); and Jennifer Light, *The Nature of Cities Ecological Visions and the American Urban professions 1920-1960* (2009) as cited in Larry Busbea, *The Responsive Environment* (Minneapolis: University of Minnesota Press, 2020).

<sup>5</sup> Another example of the form-force interface is Alexander's research with Marvin Mannheim on a stretch of highway in Massachusetts. With a map and tracing paper Alexander and Mann diagrammed (by superimposing photographs, then overlaying diagrams to create a new field of composite forms) the socio-technical forces they believed defined the problem of locating the highway (costs, travel time, noise, drainage...).

<sup>6</sup> In the early- to mid-2010s a resurgence of interest in design at the larger scale design occurred as architecture schools began to offer urbanism programs. At MIT design at the scale larger than the singular object is signified by a degree program in architecture+urbanism. At the Architectural Association the Design Research Lab (DRL) confers a Master of Architecture and Urbanism Degree intersecting architecture with design and engineering. Dissatisfaction with term urbanism was evident in rise of new programs using terms like territorial city or territorial design, or terms like computational urbanism, marking a shift to larger perspectives and to the ostensible non-urban.