Urban Architecture in the Age of Media

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INTRODUCTION

When making urban architecture today, we must keep in mind that we are not the same social bodies of previous generations. Current technological devices are significantly changing our understanding of time and space. Most importantly for this paper, they are significantly changing the way we *expect* to experience time and space. Of course, urban morphologies have always been continually re-defined by technological innovations throughout history, making it hard to argue which innovation (mercantile technology, automobile technology, digital technology et al) has had the most impact. Yet, we are at a point of significant inversion where many technological innovations are becoming more active than their users. As Simone Weil had suggested, technology now "is the thing that thinks, and it is the man who is reduced to the state of the thing" (Lapham xix). This emergent reality can be traced to the words we assign these new gadgets, such as the pag*er* or click*er*— as these have in our minds become the things acting for us, where in the past we did not call a phone a phon*er*, for example, as we thought of ourselves as still active in the process.

While all of technology might be involved in this inversion to some extent, it is our media technology that has had the most powerful impact on the general population and its relationship to collective urban experiences. Media today is more mediatory than ever, mediating between us and everything else. Media is now not only a significant means by which we *understand* the world (as with traditional media like newspapers) but also to an ever-increasing extent, it has become the significant means by which we *experience* the world as well via interactive TV, computer games etcetera. Even when real urban spaces are physically experienced today such as with a visit to Times Square, the plurality of experience suggested by the two words, public city, has been slurred into one word-- publicity.[1]

As architecture has tried to compete with these new media technologies as an equivalent means by which to experience the world, there has been a re-emergence of what I call 'a presumption of visuality' in much of the most important architectural work being produced today. Whether in the recent urban work of established architects such as Rem Koolhaas and Zaha Hadid or that of younger firms, such as FOA and Michael Maltzan Architecture, the formal and conceptual understanding of each project is contingent on the phenomenological experience of a subject in real time and space. Architecture of course has always depended on its image and the presence of an active 'user' to a certain extent, but in recent past decades, other modes of understanding architecture have been prioritized over the phenomenological, such as the rigors of pre-fabrication and efficiency 1950-60's, the meta-structures of post-modern semiotics 1970-80's. It has not been until recently, that the participation of an active subject in establishing a work's larger ambitions has been considered again as more causal. In this paper, I examine the relationship between this architecture of presumed visuality with other architectural strategies current today, focusing on several works of contemporary civic architecture. It is through this type of work which engages both the physical and the cognitive nature of the subject that we can establish our cities as places to live collectively in the fullest sense, not as just places to shop or obtain services in their most limited sense.

A STRATEGY OF SUBJECT INVOLVEMENT

It has been argued that urban architecture began to lose its core agenda (the physical spatial embodiment of cultural meaning for collective experience) during the early part of the 19th century. Becoming consumed by a new internal conflict between the empirical sciences on the one hand and its role as a representational art on the other, architecture fell into a prolonged crisis of faith. Alberto Perez Gomez and Louis Pelletier write:

> The new valuation of visual experience, particularly after 1830, also coincided with the emergence of a reified "subject"—the modern democratic individual—after the French Revolution. The new interest in the physiology of vision had a considerable impact on new art forms whose mass appeal questioned the stifling classification of the fine arts. Architecture was threatened from two sides: by engineers and sociologists, whose disciplines were endowed with greater rational certainty, and by new art forms such as photography and film, which acknowledged better the political "reorganization" of the nineteenth-century observer. Architecture was still partly identified with the secular and religious power structures of the ancien regime. (83)

By the early 20th century, the new media of film and photography began to dominate the cultural landscape, and thus began providing the majority of our collective visual 'experiences.' As these new media forms became ever more present in popular culture, less 'experience' was demanded in the vast majority of architectural production and urban planning-- leaving the disciplines with the pedestrian task of providing services.

There is an irony here though, in that there has been a love affair between real urban experience and visual media since this early era. We can almost hear the 'first kiss' in Walter Benjamin's famous quote:

> Our taverns and our metropolitan streets, our offices and furnished rooms, our railroad stations and our factories appeared to have us locked up hopelessly. Then came the film and burst this prison-world asunder by the dynamite of the tenth of a second, so that now, in the midst of its far-flung ruins and debris, we calmly and adventurously go traveling. With the close up, space expands; with slow motion, movement is extended. (236)

Media artists of the early 20th century such as Dziga Vertov *(Man with The Movie Camera)* and Charles Schiller *(Manhatta)* to the new media artists of today such as Doug Aitken *(Electronic Earth)* and Labyrinth Projects *(The Decay of Fiction)* have always embraced the city for its visual, spatial and temporal potentials. Yet, this affection remained unfortunately quite one sided, as our own urban planners and much of the urban architecture effectively retreated from such phenomenological intrigues to the safe haven of statistics and matters of public protection and management. In the 1980's, some architects and urbanists did become interested in providing more than just perfunctory services and began drawing inspiration from the dominant visual media of cinema—I am thinking of Jon Jerde's stage-set mall projects or Bernard Tschumi's cinemagraphic urban work. But their attempts to engage a now media savvy public by mining these other art forms for certain experience 'effects' always seem to produce work of mimicry rather than artistic equality.

Today, I believe most contemporary architecture can be tied to three basic categories: the scenographic, the ontological or the phenomenological.[2] Related to the above discussion of Jerde, and including of course Venturi Scott Brown, the scenographic does have value. It does attempt to recognize the role of architecture as a cultural representation of dominant trends and conditions, even if through mimicry. It does take into account the heightened visual aspects of our culture, and through often popular references, tries to become relevant beyond the often-incestuous discourse of the discipline itself. Overall, though, the work ignores more experiential and material potentials of architecture in service of graphic expression and cerebral cognition alone. As Venturi re-affirmed recently, he is still only interested in the idea of "architecture as sign (rather than space) for a mannerist (rather than expressionist) time" (7). Whether offered as an embracement of our visual culture or its critique, the solutions always seem to border on cynical, as if the world is simply a system of signs, without any more *inef-*

fable value or meaning. And, to its own potential demise, such work often remains too 2-dimenstional in a world where most media representations are now more often than not virtually (and even some times actually) spatial. The world is not as flat as it once was in terms of image, even when on a flat screen monitor.

At the other end of the spectrum, architecture with a clear ontological emphasis also has tremendous value, offering a counterpoint to the very consumptive image culture that most scenographic work addresses. Whether in the work of Renzo Piano, Norman Foster or others, these works position themselves as alternatives to the disposable images and forms of the larger culture, promoting a strategy of tectonic integrity, though not always more tectonic simplicity. As architect Peter Zumthor writes:

> I believe that architecture today needs to reflect on the tasks and possibilities which are inherently its own. Architecture is not a vehicle or a symbol for things that do not belong to its essence. In a society, which celebrates the inessential, architecture can put up a resistance, counteract the waste of forms and meanings, and speak its own language. (11)

Citing Heidegger's notion of 'being', Kenneth Frampton has argued that work embodying this ontological philosophy can resist the "degenerative prospect" of scenographic architecture and thereby, reinforce the trans-cultural notion that architecture is first a 'thing' rather than a 'sign' (5). Yet, this philosophical position rarely takes a stand on architecture's role in building the city, and often remains somewhat aloof in its transcendent position. One could argue that in some cases, highly tectonic work in fact can become so self absorbed in its ontological state that it becomes equally scenographic as a iconic reference to our cultural obsession with pseudo-technology.

Yet when looking at some of the urban projects recently produced in the United States, such as Zaha Hadid's Rosenthal Center for Contemporary Art in Cincinnati, or Rem Koolhaas' Seattle City Library Project, or Herzog DeMeuron's New De Young Museum now under construction in San Francisco, I find that these projects address the scenographic and the ontological, yet go beyond these categories entirely. Like the scenographic work mentioned above, these projects embraces the 'visual' yet establish references from an abstracted state of visual phenomena rather than from a specific state of linguistical icons or signs. With their dependence on the viewing subject's physical movement, these projects operate more on the level of the picturesque, rather than the pictorial (where one assumes a fixed position of the subject as well as the work's consequential meaning).[3] In each project, the cognition of the subject is put in play through the juxtapositions of identifiable/iconic program activities experienced over time rather than merely the juxtaposition of signs.

In the New De Young Museum, for example, the linear threads of each collection or program type expose themselves through ruptures and transparencies laterally as the subject moves through the project. As Herzog states: "In our de Young Museum we raise issues to do with the perception of objects, with the way an object 'looks back' at a person, with the way people look at each other and at the park and the city. It is all one entity, a single cosmos which reveals these interconnections between people things and the setting" (22). By experiencing this 'bleeding through' of the diverse and at times contradictory visual references, the subject must continually re-synthesis the meaning of both the content of the building and the subsequent urban experience as well. The iconic/more stable meaning of each program element, or in this case each type of collection, is left in tact at one level, but also has to be continually re-contextualized and thus re-synthesized by the subject. The ultimate experiential effect of this strategy is that the first reading of sign or signifier is made purposefully less stable, thus opening up new more pluralistic readings of the empirical.

In regards to ontological issues, none of these architects abandon the material/structural condition of the architecture, but merely push the tectonic to its phenomenological potential (more along the lines of another Frampton favorite, Gaudi; or like the artist Richard Serra where materiality and ontological essence is everything but always in service to the visual). In all three projects, the plasticity of the urban forces and their visual potentialities torque, push and at times dematerialize the original state of a static or pure structure. Surely, a Heidegger-esque sense of material 'being' does not exist in three works per se, but each project fully develops

a fairly rigorous structural and material philosophy nonetheless. As in the case of Hadid's project, for example, the floating effect of the solid gallery boxes over transparent urban void, does not show a diminished sense of structure on the part of Hadid, merely a more robust orchestration where proportion, materiality, and structural placement are more considered rather than just calculated. Because the projects are most attuned to the phenomenological effect of the structure and material choices on the participating subject, the architects often employ the technique of poetic 'strangeness' not dissimilar to the technique employed by surrealist artist, Meret Oppenhiem, in his famous 'Fur Lined Teacup' (1936), where as the title suggests the smooth cool porcelain has given way to its antithesis. Here the ontology of the object is everything, just not what we expected it to be.

Most importantly, beyond either the issue of the scenographic or the structural, these projects try to re-establish architecture's deeper connection to urban life as a thing that transcends both cultural representation and any tectonic essence. One can see this in the 'urban carpet' of Hadid's Cincinnati project, the ramping 'mixing chambers' of Koolhaas' Seattle library and the ingested park strands in Herzog DeMeuron's New De Young museum. The connection to the larger urban infrastructure is important as a means to suture the users experience from the city to the object and visa versa. There is a sense that the buildings' spaces are, like the spaces of their Modern predecessors, essentially continuous via the ground plane with the urban spaces beyond the project itself. Urban life is not something that is only 'outside' the building, but is to be brought into the building. Herzog states that their museum "expresses the distinctiveness of different cultures and, at the same time, it is a place of common ground, where diversity meets and intersects, where otherwise hidden kinships between divergent cultural forms become visible and tangible" (254).

In their attempt at 'tangibility,' these works do not give themselves up entirely and meld into the repetitive non-descript field condition of the city. There is a tension or a pull between establishing themselves as civic objects and diluting themselves (via knotting, exposing or weaving) to into the larger urban condition. This is especially true in Rem Koolhaas' Seattle Library Project. Here, it is a strategy of 'both & and' rather than 'either-or.'[4]

The building sets up what might be called a state of 'productive antagonism' between its role as an urban object and its spatial typology as a complex microcosm of the larger urban fabric. In essence, I see this tension as one between the notion of space (espace) and place (lieu) as defined by Michel de Certeau. For de Certeau,

> A place (lieu) is the order...(in) which elements are distributed in relationships of coexistence. It thus excludes the possibility of two things being in the same location (place)...it implies an indication of stability. A space exists when one takes into consideration vectors of direction, velocities and time variables. Thus space is composed of intersections of mobile elements. It is in a sense actuated by the ensemble of movements deployed within it...On this view, in relation to place, space is like a word when it is spoken...in contradistinction to place, it has thus none of the univocity or stability of a "proper." In short, space is a practiced place. (117)

Along these lines, Koolhaas also suggests that this project addresses the 'both & and' condition between the real and the virtual, stating, "the anticipation of a looming conflict between the real and the virtual is moot at the moment where the two can be made to coincide, become each other's mirror image. The virtual can become the distributed presence of the New Seattle Library that users find confirmed in its actual site in the city" (84).

As a result of addressing these dualities between the city and the building, the real and virtual, and space and place, all three final project result in a more complex overall formal strategy than one which simply reference the continuous ground planes of their Modernist predecessors. In a sense, each project acknowledges the extent to which civic space is a more *practiced* place than most other urban spatial conditions. Rather than just reinforcing the continuity of space via the open ground plane alone, the projects also establish a vector of public-ness in the vertical direction as well, thereby establishing a certain level of formal objectification or place making in contrast to the ubiquitous nature of the traditional urban realms and the newer virtual ones. Through this duality between space/place,

these newer architectural projects are more directly connected to several pre-modern strategies of the visual--be it to Sitte, the Baroque, or even Lynch's notion of imageability to name a few, where objects are conceived more as both a piece of the total city experience and a piece of architecture.

Very similar strategies are also being extended to many of the urban park projects currently being planned for several metropolitan cities in Europe, such as FOA's Southeast Coastal Park in Barcelona and the new park in Milan by a collective lead by Petra Blaise, Michael Maltzan Architecture and Mirko Zardini. Like their more purely architectural counter parts, these projects too resist any sense of a fixed gestalt plan strategies and are designed around the spatial/temporal movement of an urban user whose cognitive understanding of urban life is informed through visual and kinetic experience. As exemplified in the Milan park project, there is a comfortable alliance between developing a strategy of the visual in single pieces of architecture and developing this same notion at the larger scale of the park. In addressing their new work in Barcelona, FOA refers to this as 'isomorphism across scales,' stating: "We like to approach architecture through identifying systems across different scales simultaneously... In complex systems there is increasing consistency between the small scale and the large scale" (Moussavi/Zaera 26). Overall, many of these emerging park strategies operate similarly to how artist Robert Smithson once discussed the picturesque, where "a park can no longer be seen as 'a thing itself,' but rather as a process of ongoing relationships...the park becomes a 'thing for us.'" (Bois 36).

It is this belief in a re-invigorated collective realm that underlies all of these varied attempts at making order via the visual and physical engagement, whether at the architectural scale or that of the urban landscape. I would argue that this is a result of a generation shift in ideology held commonly by post war architects. These architects are apart of a generation that was been deeply effected by the events of the 60's, particularly that of 1968. This later generation is the generation of Marshall McLuhan's global village, where the engagement of the subject was in many ways the point of the unrest and the optimism of the cultural and media revolutions. For the previous generation, it might be argued, the most consequential event was the 'heroic' period of WWII in terms of the architect's own deeper ideological development. This is not to say that the subject is not considered in the work of someone like Sir Foster, as no one would argue that. But that subject when viewing such work is envisioned to react with a type of *awe* rather than becoming cognitively and physically engaged. For the architects of post war generation, on the other hand, their work needed to become more about 'us' in a literal and more immediate way than about 'us' in the more representational or heroic ways of their predecessors.

Therefore, it not surprising that the aspirations of this newer architecture might be reminiscent of the collective strategies advocated by the social engineer of the pre-heroic era, Fredrick Law Olmstead, who too employed the notion of the picturesque in such urban projects as New York City's Central Park. In this historical precedent as well as in the works mentioned above, it is difficult to say which is more essential--the visual sense of the subject or his/her physical involvement. As argued via Smithson and later Yve-Alain Bois, such work in fact can be seen as fundamentally questioning the pictorial origin of the picturesque; and in fact more accurately "presupposes a stroller, (as) someone who trusts more in the real movement of his legs than in the fictive movement of his gaze" (Bois 36). As Herbert Muschamp writes in an article commemorating at the 125 year anniversary of Central Park and Olmstead's collective ideals:

> Architecture is like sports. Our experience of space may be more closely tied to kinesthetics than it is to vision...there is a correlation between memory and movement. Certain memories are acquired in movement -- Proust talks about this in the concluding scene of "In Search of Lost Time" -- and are aroused again by the kinesthetic sense.

Whether in Central Park, the New De Young Museum, Seattle's Library or the Milan Park Project, cognitive understanding of the urban condition is constructed via the juxtaposition of multiple program elements experienced by a moving subject over time. And, like Olmstead who rejected any rigorous zoning of precise and autonomous functions and dismissed any proposals for monuments with too specific of a reference, these contemporary architects understand that through these strategies of *contingent* visual juxtaposition and phenomenological abstrac-

tion, the social life of the city can continue to work on many levels over time rather than become fixed in ways that might become obsolete.

Most importantly, by prioritizing cognitive meaning via visuality and experience (rather than prioritizing cognitive meaning via objectivity, rationality or autonomy as in previous eras), the contemporary architecture mentioned above (as well as that of Olmstead) can effectively compete with current media technologies as a relevant collective art form for today. In fact, these projects have the ability to provide the subject with something that the media of today is ironically trying itself to mimic with Reality TV, IM technologies and internet chat rooms: social exchange in real time and space.

CONCLUSION:

It is as if enough time has passed and enough rhetorical blood has been spilt, that architects can be finally freed from the debates that had pulled their discipline apart since the early 1900's. Koolhaas, Hadid and Herzog DeMeuron, and the others mentioned within, accept the dominance of kinetic visuality in our general social body, understand its historical relevance to the discipline of architecture, and have found a way to bring it back as a means to re-position architecture as a primary means to experience collective reality. But most importantly, they have done two things simultaneously: 1. They have begun to move us beyond false dichotomies constructed between technological rationality and cultural representation and 2. They have avoided by and large the tendency to substitute the terms of one culturally weaker discipline (architecture) with another more dominant discipline (filmic/digital media).

And while I might make connections between this contemporary work and previous collective architectures such as Olmstead's, one of course has to debate the nature of the subject itself today much more closely; for, as mentioned in the introduction, we are not the same social body as in the past. On closer readings of the above-mentioned projects, we can see significant distinctions in terms of how each architect conceptualizes the meta-physical constitution of the subject engaging in their work. For instance, as I have argued elsewhere, the work of Koolhaas seems to conceive of a post-modern subject as someone who is more radically 'split' by issues of globalism and the subsequent ruptures of time and space as theorized by Hal Foster; whereas Hadid's work promotes the notion of a still-modern subject significantly 'warped' by the realities of a 'less than settled everyday life' as argued by Anthony Vidler.[5] It is these more nuanced interpretations of the subject that ultimately lead to such distinguished formal strategies between each architect.

Yet, whether warped or split or something else, the new media technologies can still promise something that these real projects can not deliver on—Utopia. The promise of Utopia can be seen in so many of the advertisements for new technology, such the 'Anthem' television commercials for MCI, where it states: "There is no race. There is no gender. There is no age. There are no infirmities. There are only minds. Utopia? No, the Internet."[6] Though tempting to believe in world torn apart by numerous real and constructed insecurities, we all know that these issues will never be resolved via this technology, just ignored. As Alberto Gomez-Perez and Louis Pelletier write:

> It may be true that the accessibility of electronic "space" adds a new dimension to the old dialectic of public and private realms, suggesting possible new forms of human interaction. Nevertheless, we must remember that in this new space of communication, the expressive body, origin of all communicative action, is always left out. We should not be naïve about the so-called public nature of cyberspace. True public space, the space of architecture, is the "space of appearance," where the facing of the Other...Bodies transformed into information are not phenomenological bodies. Although it could be argued that at the moment society's public forum is indeed the information highway, and that encounters in its nodes are fruitful, such a highway should not be construed as a substitute for the space of dialogue and erotic exchange, the space for an architecture of resistance...The goal is hardly to pursue the dream (or nightmare) of our dissolution into networks of digitized information; it is rather to construe and build spaces that resist such a collapse. (382)

It is only via our real cities that we will be able to negotiate and make progress on the ever-present issues of class, race, and gender. It is therefore imperative for architects to work towards creating such a resistance mentioned by Perez-Gomez and Pelletier. But in doing so, they must create strategies that do not abandon the subject (via a reductive ontological emphasis) or merely mimic the competition (via an excessive scenographic cacophony).

When one looks at the contemporary work discussed here in relation to the many new media projects being produced today, I believe we are finally arriving at a place of equality. As media artists push beyond the strict spatial/temporal confines of Hollywood narratives, their works "invite us to accept, through the undeniable evidence of our personal experience, the aporias of time that seem irreconcilable to reason" and most importantly they suggest urban life "as it could be" (Perez-Gomez/Pelletier 377). In a reciprocal way, the contemporary architecture discussed here which re-engages the subject and offers an appropriate structure by which we can experience urban life more thoroughly and more collectively has, for the first time since the advent of motion technologies, finally begun to fulfill the promise of Walter Benjamin's 'first kiss.'

NOTES

[1] The uproar on product placement in the fictional spaces of movies and TV always seems a bit absurd to me, considering our complacency of product placement in our real spaces.

[2] The initial binary opposition between scenography and the ontological has been carefully defined by Kenneth Frampton in "Rappel à l'Ordre: The Case for the Tectonic" in Constancy and Change in Architecture (1991). I am extending the comparison to now include a third distinction for work that is neither solely scenographic nor ontological, but based on the phenomenological.

[3] This distinction between the picturesque and the pictorial grows out of a similar distinction first made by Yve-Alain Bois, in reference to Richard Serra, in his article "A Picturesque Stroll Around Clara Clara," October 29 (Cambridge: MIT) 1984.

[4] This references Robert Venturi's earlier distinction of 'both/and' found in his work, Complexity and Contradiction (NY: MOMA) 1977.

[5] Murphy, Amy. "Architecture, Experience and Media in the Digital Age." ACSA National Conference Proceedings, Miami Florida, March 2004.

[6] This example and others are addressed thoroughly in Lisa Nakamura's article, "Where Do You Want to Go Today? Cybernetic Tourism, the Internet and Transnationality" in The Visual Culture Reader (New York: Routledge) 2002.

BIBLIOGRAPHY

Benjamin, Walter. "The Work of Art in the Age of Mechanical Reproduction." Illuminations. Ed. Hannah Ardent. New York: Schocken Books, 1969: 217-252.

Bois, Yve-Alain. "A Picturesque Stroll around Clara Clara," October 29 (1984): 32-62.

Damisch, Hubert. The Origin of Perspective. Trans. John Goodman. Cambridge: MIT Press, 1995.

De Certeau, Michel de. The Practice of Everyday Life. Berkeley: University of California Press, 1988.

Frampton, Kenneth. "Rappel à l'Ordre: The Case for the Tectonic." *Constancy and Change in Architecture*. Eds. Malcom Quantrill and Bruce Webb. College Station: Texas A&M University Press, 1991.

Foster, Kurt. "Chapter 7: Whatever happened to Postmodernism?" The Return of the Real. Cambridge, MA: MIT Press, 1996: 205-226.

Hadid, Zaha. El Croquis 103. Eds. Fernando Marquez Cecilia and Ricard Levene. Madrid: El Croquis Editorial, 2001.

Herzog, Jacques and De Meuron. El Croquis 109/110. Eds. Fernando Marquez Cecilia and Ricard Levene. Madrid: El Croquis Editorial, 2002.

Koolhaas, Rem. OMA@Work. Ed. Nobuyuki Yoshida. Tokyo: A+U, 2000.

Lynch, Kevin. The Image of the City. Cambridge: MIT Press, 1960.

Laphan, Lewis. Introduction. The Medium is the Massage: An Inventory of Effects. By Marshall McLuhan and Quentin Fiore. Corte Madera: Gingko Press, 2001.

Moussavi, Farshid and Alejandro Zaera. "Complexity and Consistency." El Croquis 115/116. Eds. Fernando Marquez Cecilia and Ricard Levene. Madrid: El Croquis Editorial, 2003: 6-30.

Muschamp, Herbert. "A Critic's Notebook: A Garden for All as Private Eden," The New York Times 23

May 2003.

Nakamura, Lisa. "Where Do You Want to Go Today: Cybernetic Tourism, the Internet and Transnationality," The Visual Culture Reader. Ed. Nicholas Mirzoeff. New York: Routledge, 2002: 255-263.

Perez-Gomez, Alberto and Louise Pelletier. Architectural Representation and the Perspective Hinge. Cambridge: MIT Press, 1997.

Smithson, Robert. "Fredrick Law Olmstead and the Dialectical Landscape," Writings of Robert Smithson. Ed. Nancy Holt. New York: New York University Press, 1979.

Venturi, Robert and Denise Scott Brown. Architecture as Signs and Systems for A Mannerist Time. Cambridge: Harvard University Press, 2004.

Vidler, Anthony. Warped Space: Art, Architecture and Anxiety in Modern Culture. Cambridge: MIT Press, 2000.

Zumthor, Peter. "A Way of Looking at Things," Thinking Architecture. Trans. Maureen Oberli-Turner. Basel: Birkhauser, 1999: 9-27.