

PROTOPIA

Principles Towards a General Theory of Mega-Forms

Harvard University Graduate School of Design
 Independent Study
 Spring 2011
 Professor: Ciro Najle
 Student: Kaz Yoneda

2013 -
 social floor area
 freedom tower -
 new york

1967 -
 white area/fole -
 hospital 57 -
 montreal

1976 -
 kiyokawa -
 sakagin tower -
 tokyo

1993 -
 fukusando -
 rokko housing 1 -
 kobe

1991 -
 waterscape area
 nordis housing -
 fukuoka

2006 -
 frank rehr
 beekman place -
 new york

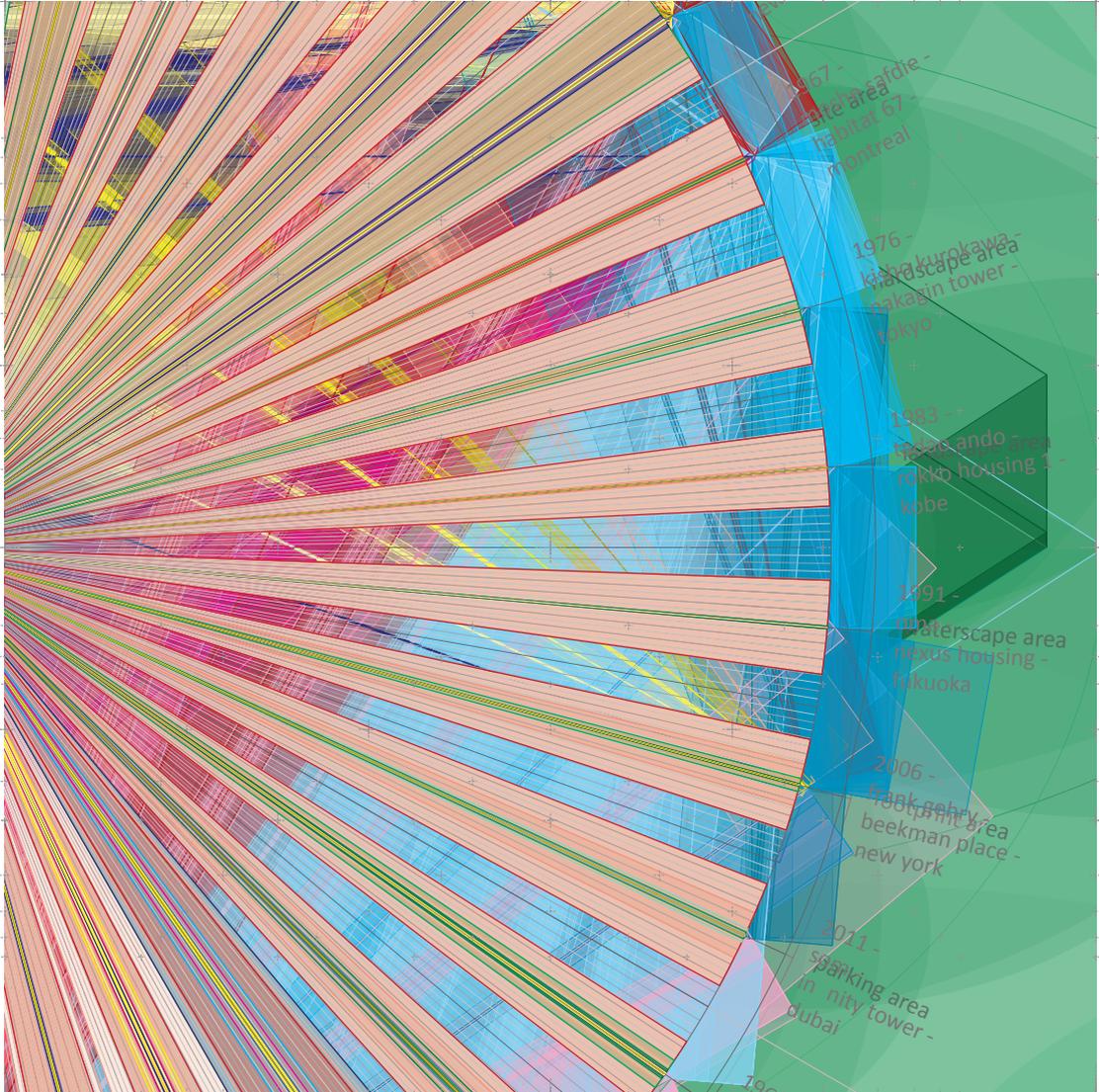
2011 -
 sparking area
 n nity tower -
 dubai

1969 -
 claremont
 barbican estate -
 london

1970 -
 saffron transit nodes
 john hancock center -
 chicago

1989 -
 millennium
 cleveland -
 tokyo

HOUSING



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The rise of Berlin Wall marked the advent of Post-Utopian world in which Modernist social constructs were re-appropriated to become capitalistic machinations. With the fall of the Wall and the Red Curtain so did any resistance to the impending surge of neo-liberal capitalism. Hence, a stage was set for the developments of various urban modalities to be envisioned at heretofore unforeseen scales, and some were built to occupy vast territories.

“Beyond a certain critical mass such [structure or collection of structures] becomes a monument, or at least raises that expectation through its size alone, even if the sum or the nature of the individual activities it accommodates does not deserve a monumental expression... it merely is itself and through their sheer volume cannot avoid being a symbol - an empty one, available for meaning as a billboard is for advertisement. It is a solipsism, celebrating only the fact of its disproportionate existence, the shamelessness of its own process of creation.” -p.100, *Delirious New York*

These developments are the ultimate form of commercial urbanism that is ruthlessly formulaic. While their concepts are schematic, they remain dogmatic and achieve a sophisticated level of auto-monumental machines that impoverishes culture, marginalizes human life, accelerates consumption, and politically stupefying. Indeed, we have witnessed what Koolhaas observed as a certain ineffability or apprehension of Bigness, which did not seem to deserve a manifesto. However, rather than to blindly defy their blind formulations or to swallow it whole, there must be opportunities for us to extract the constructive platform of nascent relationships. In other words, there is a promethean task towards a general theory of mega-forms.

This concept is not necessarily new. From the chapter, "Bigness or the problem of Large" in S,M,L,XL, Koolhaas writes, "The absence of a theory of Bigness - what is the maximum of architecture can do? – is architecture's most debilitating weakness. Without a theory of Bigness, architects are in the position of Frankenstein's creators: instigators of a partly successful experiment whose results are running amok and are therefore discredited. Because there is no theory of Bigness, we don't know what to do with it, we don't know where to put it, we don't know when to use it, we don't know how to plan it. Big mistakes are our only connection to Bigness." -p.509-510

The discipline, still to this day, lacks any real solution to this dilemma. The Borgesian outlook of infinite permutation has stopped many, but the real problem is our inability to, or rather, our convenient amnesia to see the undercurrent of quantifiable relationships that ultimately has a formal outcome.

Thus, amidst the chaos of megaurbanism, a matricial network of relationships can be extrapolated from sets of numerical data. This will constitute an infrastructural platform to derive a general theorem and from 6 typologies of office, housing, mixed use, districts, gated community and satellite cities. Each typology will have one project from each decade since 1960, by different architects and across global locations. They are analyzed by 6 categories embedded by 6 subcategories, for massing, ground condition, network, demographics, value, and program. 36x36 matrix stands for the critical, encyclopedic compendium of schizophrenic restlessness of our century.

This platform is both a structure and a basis to build the prototypes for future forms and urbanisms. Thus, this travelling platform is a critical analysis of the post-utopian world, epitomized in megaurbanism, to arrive at principles towards the general theory of mega-forms; towards the embryonic form of new architecture and urbanism.

Quotes from Delirious New York

“The fatal weakness of manifesto is their inherent lack of evidence. Manhattan’s problem is the opposite: it is a mountain of evidence without manifesto.” - p.009

“Beyond a certain critical mass each structure becomes a monument, or at least raises that expectation through its size alone, even if the sum or the nature of the individual activities it accommodates does not deserve a monumental expression... it merely is itself and through their sheer volume cannot avoid being a symbol - an empty one, available for meaning as a billboard is for advertisement. **It is a solipsism, celebrating only the fact of its disproportionate existence, the shamelessness of its own process of creation.**” -p.100

“The city’s scale explosion is controlled through the drastic assertion of the most primitive model of human cohabitation. This radical simplification of concept is the secret formula that allows its infinite growth without corresponding loss of legibility, intimacy, or coherence. The City of the Zoning Law - the **Mega-Village** - is a fantastic enlargement of the original New Amsterdam.” - p.108

“The metropolis strives to reach a mythical point where the world completely fabricated by man, so that it absolutely coincides with his desires. The Metropolis is an addictive machine, from which there is no escape...” - p.293

“More obliquely, it contains a hidden second argument: that the Metropolis needs/ deserves its own specialized architecture, one that can vindicate the original premise of the metropolitan condition and develop the fresh traditions of the Culture of Congestion further... it is the arduous task of the final parts of this century to deal with the extravagant and megalomaniac claims, ambitions and possibilities of the Metropolis openly.” -p.293

Quotes from S,M,L,XL

“Bigness is the ultimate architecture... Of all the possible categories, Bigness does not seem to deserve a manifesto; discredited as an intellectual problem... through clumsiness, slowness, inflexibility, difficulty. But in fact, only Bigness instigates the regime of complexity that mobilizes the full intelligence of architecture and its related fields.” -p.498

“The combined effects of these inventions were structures taller and deeper - Bigger - than ever before conceived, with a parallel potential for the reorganization of the social world - vastly richer programming.” -p.499

“In Beauborg - Platonic Loft - had proposed spaces where “anything” was possible. The resulting flexibility was unmasked as a imposition of a theoretical average at the expense of both character and precision - entity at the price of identity.” -p.506

“The programmatic hybridizations/proximities/frictions/overlaps/superpositions that are possible in Bigness - in fact, the entire apparatus of montage invented at the beginning of the century to organize relationships between independent parts - are being undone by one section of the present avant-garde in compositions of almost laughable pedantry and rigidity, behind apparent wildness,” -p.506-7

“Paradoxically, the Whole and the Real ceased to exist as possible enterprises for the architect exactly at the moment where the approaching end of the second millennium saw an all-out rush to reorganization, consolidation, expansion, a clamoring for megascale. Otherwise engaged, an entire profession was incapable, finally, or exploiting dramatic social and economic events that, if confronted, could restore its credibility.” -p.509

“The absence of a theory of Bigness - what is the maximum of architecture can do? - is architecture’s most debilitating weakness. Without a theory of Bigness, architects are in the position of Frankenstein’s creators: instigators of a partly successful experiment whose results are running amok and are therefore discredited. Because there is no theory of Bigness, we don’t know what to do with it, we don’t know where to put it, we don’t know when to use it, we don’t know how to plan it. Big mistakes are our only connection to Bigness.” -p.509-510

“

Quotes from Megastructure

“Megastructures in their time were all large buildings - but not all large buildings of the time were megastructures... Megastructures, then, were large buildings of a particular kind, though what kind remains difficult to define with neat verbal precision.” p.7

“Visible connections between this prime ancestor and its widely distributed progeny were few, yet the fundamental discrimination between the parts of urban high-density construction persists: on the one hand a massive, even monumental, supporting frame; on the other, various arrangements of habitable containers beyond the control of the architect.” p. 8

“Thus the megastructures which were actually completed were more or less guaranteed a bad press and a hostile reception: they had taken so long to build, because of their great size, that the intellectual fashion that had given them birth had passed away before their completion. Nevertheless, the concept of megastructure had been for one hectic decade the dominant progressive concept of architecture and urbanism. It had enjoyed that dominance because it offered to make sense of an architecturally incomprehensible condition in the world’s cities, to resolve the conflicts between design and spontaneity, the large and the small, the permanent and the transient.” -p.10

“The sense of scale is unnerving; so is the formal control over all the parts of the professedly aformal and controllable **megaform**. The project has an air of authority not to be recaptured in any of Tange’s later works nor ever to be equalled by his younger contemporaries who formed the Metabolist group proper.” -p.54

“The concept of the **megacity** as the playground of a new leisured class informs theories as diverse as those of Nieuwenhuis and of Archigram, but in Friedman’s reading it leads not to diversity but to concentration on a single, double-headed proposition.” -p. 60

“The etymology guessed at by Wilcoxon in his *Bibliography: mega* as in ‘megaton’ from atomic weaponry, ‘megalopolis’ from Jean Gottman’s book of that name, or

'megabucks' from any number of rueful jokes about government expenditure; and *structure* as in 'infrastructure' most clearly, possibly as in Habraken's 'support structure', and generally and almost subliminally as in all the ancient structural mystiques of the architectural profession - though megastructuralists were somewhat divided on what explicit importance should be accorded to structure, as will be seen in later chapters." -p.70

"1. Compositional Form: groups of buildings composed according to traditional Modern Movement precepts.
2. Mega-Structure: a large frame containing all the functions of a city, mostly housed in transient short-term containers.
3. Group Form: accumulation of identical spatial or structural elements into larger complexes." -p.71

"In terms of the Rowe/Choay type of distinction between ideal cities and Utopias, megastructures can be defined as ideal cities intended to house somebody else's Utopias - the New Utopia of the futurologists." -p.80

"First, *concentration*: the heaping up in one place of all the social facilities of a city, and all the commercial ones as well, in a single location... Second, *monumentality*... *symbolism* is the third concept legitimized here: the visual aspect of the building symbolizes levels and types of performance it cannot deliver in real life." -p.170

"The purely lexical meaning of megastructures, when it is finally committed to the standard dictionaries, will probably be as wrong-headedly correct and boringly true as that offered by Cook and Klotz, viz.: 'megastructure; An over-scaled, colossal, multi-unit architectural mass.' " -p.196

"This, one may suspect, was one of the most persistent meanings or motivations for megastructure: that in spite of its extensibility and uncertain outline, its sheer concentration of activities would bring an end to the situation where 'the huge, uncontrolled and sprawling chaos that we now call City is choking our civilization'" -p.199

“Note now, once again, Philip Johnson had blown the gaff by saying that there would be megastructures when management was ready, before he said a thing about the people being ready. Megastructure was, obviously, close kin to Big Management; those to whom conglomerates and multi-nationals were unacceptable would find megastructure unacceptable too.” -p.209

Quotes from Various Sources

“A large frame in which all the functions of a city or part of a city are housed. It has been made possible by present day technology. In a sense it is a man-made feature of the landscape. It is like the great hill on which Italian towns were built... A mass-human scale form which includes a **Mega-form**, and discrete, rapidly-changing functional units which fit within the larger framework.” -p.8, Fumihiko Maki, *Investigations in Collective Form*

“1. constructed of modular units;
2. capable of great or even ‘unlimited’ extension;
3. a structural framework into which smaller structural units can be built - or even ‘plugged-in’ or ‘clipped-on’ after having been prefabricated elsewhere;
4. a structural framework expected to have a useful life much longer than that of the smaller units which it might support.” -Ralph Wilcoxon, *Megastructure Bibliography*

“6.54 My proposition serve as elucidations in the following way: anyone who understands me eventually recognizes them as nonsensical, when he has used them - as steps - to climb up beyond them. (He must, so to speak, throw away the ladder after he has climbed it.)

He must transcend these propositions, and then he will see the world aright.

7 What we cannot speak about we must pass over in silence.” -p.74, Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*

00.

Introduction

- a. Hypothesis
- b. Framework
- c. Platform

01.

Encyclopedic

a. Matrix

Quantitative data collection of global developments from six different typologies:

- Offices
- Housings
- Mixed-use agglomerates
- Districts
- Gated communities
- Satellite cities

b. Selection

Six cases will be selected on the basis of spectral analyses for each of the global typologies.

c. Chart

Each case will be measured in terms of topics and respective subtopics:

i. Massing

- Height (m)
- Base width (m)
- Base depth (m)
- Base core area (m²)
- Floor height (m)
- Total floor area (m²)

ii. Ground

- Site area (m²)
- Hardscape area (m²)
- Landscape area (m²)
- Waterscape area (m²)
- Footprint area (m²)
- External parking area (m²)

iii. Network

- Water transit nodes (#)
- Air transit nodes (#)
- Elevator nodes (#)
- Subway nodes (#)
- Train nodes (#)
- Bus nodes (#)

	iv.	Demographics	Maximum occupancy (#)							
			Institutional occupancy (#)							
			Office occupancy (#)							
			Residential occupancy (#)							
			Industrial occupancy (#)							
			Hotel occupancy (#)							
	v.	Value	Residential revenue (\$)							
			Office lease revenue (\$)							
			Hotel revenue (\$)							
			Parking revenue (\$)							
			Land value (\$)							
			Construction cost (\$)							
	vi.	Program	Commercial (m ²)							
			Residential (m ²)							
			Institutional (m ²)							
			Leisure/recreational (m ²)							
			Industrial (m ²)							
			Service (m ²)							

02. Relations
- a. Each of these quantitative categories can be combined with the other to create, depending on the relationship, a ratio or percentage-based numeric coefficients. Both conventional and non-conventional relationships are projected.
 - b. After the primary relationship, subsequent layering of relationships will create a hierarchical platform for the field of relations

03. Forms
- a. Each level of relationships has equivalent form or geometry which will be diagrammed. Cumulative relationships will produce complex or simple forms that will constitute the indexical matrix of generic forms.

04. Principles
 a. Theoretically, the cumulative convergence of relationships will result in one embryonic form. There must be a "root of all megaforms" embedded in a potential theorem.

05. Schedule
 a. Phase 01: 1.20.2011 – 2.26.2011
 b. Phase 02: 2.27.2011 – 3.31.2011
 c. Phase 03: 4.01.2011 – 4.22.2011
 d. Phase 04: 4.23.2011 – 5.03.2011

06. Method
 a. Method 01: Data collection, matrix of quantitative elements
 Then, visualization of quantitative data by the use of 6x6 radial charts which can be superimposed to observe patterns of organization
 b. Method 02: Diagramming isolated relationships, coupling of discrete quantitative elements
 c. Method 03: Transfiguration of diagrams into generic indices of relationships
 d. Method 04: Theorize a General Theory of Megaforms based on analyses and relevant bibliography

07. Criteria
 a. Dossier 01: Encyclopedia of 36 case studies and 6x6 charts
 b. Dossier 02: Relational diagrams based on 6x6 quantitative analyses
 c. Dossier 03: Indices of prototypic forms
 d. Dossier 04: Principles towards a General Theory of Megaforms

08.

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- 1997_Stan Allen_From Object to Field
- 2000_Alejandro Zaera Polo_Mind After Matter
- 2000_Jesse Reiser_The New Fineness
- 2003_Ciro Najle_Convoluteness
- 2009_Ciro Najle_Protocology

