



OPEN (ING)



Manuel Gausa

Open logic, informational logic: theory and history of
a change in the architecture and the contemporary city



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SPACE-TIME-INFORMATION 1900-2000
THE BEGINNINGS OF ADVANCED ARCHITECTURE

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THE BEGINNINGS
OF ADVANCED ARCHITECTURE**

**Open logic, informational logic:
theory and history of
a change in the architecture
and the contemporary city**

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PROLOGUE

I

We may not be entirely conscious of it, but over the last 20 years – i.e., between the last decade of the previous century and the first decade of this one – there have been decisive transformations in the way we understand the environment for our lives, relationships and production.

Radical transformations in the spaces we coinhabit in terms of scale, dimensions and conceptual approach; as well as transformations in our approach to space and in the models for representation and processing used in that approach.

Today, we are aware of a spectacular scalar leap (both fascinating and conflictive at the same time) associated with the construction – and interpretation – of a reality that has suddenly become multiple on all levels.

A reality characterized by mobility, interconnection, communication and information processing, and which implies an accelerated capability for exchange between cities, territories, cultures and habitats; but also networked environments (both, real and virtual).

These processes refer back to the increasingly complex, diverse, dynamic and ultimately multiple (by multiplied) condition of the framework for our cohabitation.

A condition that we could qualify as more “informal” precisely because is it more “informational”.

Because it is more sensitive to the capacity for interaction among conditions, information and events.

And to how they can be manifested in less “codified” relational environments. These changing dynamics, in turn, also demand a change in perspective.

From an unambiguous, analytical, segmented and partitioned perspective, accustomed to dividing up, classifying or categorizing the world into closed-off categories, we have moved (we are moving) toward a synthesizing perspective, called upon to merge and combine various stimuli, messages, requests and information, while processing and orienting them at the same time.

This also implies decisive changes in established social, creative and scientific disciplines – especially the ones involved in interpreting and constructing space (and particularly in architecture as a cultural, spatial and technical discipline). These changes call for new investigative and exploratory tools that will be capable of expressing this shift from a more linear conception of form – more singular and static – to a more heterogeneous one – more dynamic and complex – corresponding to our times.

A new type of conception designed to demonstrate this shift from the stable to the dynamic, from an additive logic to a combinatory one, from singularity to heterogeneity. From pure to impure.

From compositional to decidedly interactive.

A new type of conception intended to work with complexity in order to articulate and celebrate it, rather than simplifying or clarifying it.

Beyond architecture understood as a discipline intended to outline, plan and design stable forms in space, today we are moving toward architecture that is understood as transdisciplinary – or as a discipline between and through disciplines that is called upon to synthesize, formulate and express processes and relationships (which are dynamic, or virtually dynamic, reactive and adaptative)) within space. This shift implies substituting a certain ideal of architectural space as an “object” (i.e., as a formal, figurative, episodic, compositional event), conceiving of it as an “environment” (i.e., as a systematic process that relates, configures, and prepares). And, as such, the transition from training that is approached as

trade-based (transmitting knowledge and formulas for action) to training that is understood as research (generating knowledge and operative formulations).

All of this ultimately refers back to a new kind of thought and new conceptual structures that are summarized as a change in logic, which is still in the exploratory phase.

A new logic called on to replace the classic delineating *composition* and the modern *objectual position* with a new type of contemporary *informational (interactive) disposition*.

A dispositional ordering that involves spatial configurations, but also relational attitudes (and aptitudes). Most probably, the inquiries, explorations and examinations into this logic, which is implicit in the very understanding of our time, but also in the resounding and synergistic (synaesthetic) responses associated with it, have occupied a large part of the most engaged research from the end of the previous century.

A logic that some have called advanced, reactive, transversal, dynamic, digital and which, in short, we could refer to as informational because of its open commitment to a more complete and interactive vision of this now obvious exchange among situations, conditions and information.

A logic called upon to resonate with the parameters of complexity (simultaneity), dynamicity (evolutivity), diversity (plurality), transversality (connectivity), mixi(c)ity (multiplicity), interactivity (interchange) and reactivity (responsivity or adaptability); but also with parameters of heterogeneity, combination, impurity, crossbreeding and paradox that define our time.

The approach – initiated, intuited, suggested, expressed or explored – to that spatial and architectural “change in logic” has constituted one of the most important intellectual adventures in recent history.

Recognizing it is one of the motivations behind this book.



In that sense, if we divide If we divide in decades the evolution of that new advanced logic produced during the last twenty / thirty years, we could point out that the first segments of the 1990s were characterized by the intellectual assimilation of a procedural but also “urban-territorial” scalar leap (social, economic, spatial and cultural) on a global level, amplified by mobility and communication, and produced beyond the landscapes – and wildernesses – characteristic of the old dichotomies between “center” and “periphery”.

Territorial mutations, migratory flows, immaterial processes, infrastructural connections and systems of spatiotemporal interaction would constitute some of the most fundamental drivers of change which would coincide with the first manifestations of the digital revolution and its increasing universal (and personal) capacity to process, manage, visualize and synthesize information.

Attempting to recognize and map these new types of conditions, which are characteristic of a more multi-faceted and undisciplined environment, generated beyond the traditional accounts of a “return to history” in the 1970s and a “return to technique” in the 1980s, would underlie many of the concerns of the period.

Networks, landscapes, places and non-places, changes in scale and field logics, infrastructures for transportation but also for consumption, leisure and mixed uses (“dwelling-work-recreation”) along with new relational spaces, etc. would be established as a new type of mental tool and a new, more open prospective culture that would find its expression in the emerging voices of the moment.

The second half of the 1990s, while dedicating attention to recording this new informational scenario in transformation, was characterized more by an interest in assimilating the progressive multi-layered and transversal recording of our environments and in constructing possible propositional responses that would be

sensitive to the new emergent phenomena and capable of translating this shift in urban, territorial cultural and instrumental paradigms (Windows, CADs, GIS, SCANS, etc., as firsts digital programs) into new design approaches.

Experiences that, in turn, could be interpreted as individual unique attempts – generated, above all, by some of the most enterprising new professional teams of the moment – in an effort to express the “symptoms” of this new logic in progress and to condense them into new, less taxonomically predictable or predetermined spatial responses.

Many of the architectural explorations connected with that propositional ambition, associated with a more dynamic and complex, less linear conception of form would attempt to propose new types of spatial configurations with more open, more multi-faceted and irregular geometries, to sum it up – more topological proposals, tied in with the dynamism of an environment in transformation and its most explicit manifestations; especially in the city and its “anti-typological” – because multiplied and polyhedral - in the form of growths and twinning(s), meshes and networks, topographies and reliefs, etc.; Or with a new type of morphologies arising from the exploration of new patterns and software programs (Maya, CATIA, PHOTOSHOP, etc.) associated with elastic, changeable and adaptable geometries.

This feverish moment of trial and inquiry, of echoes and transfers, translations and passages, has been the central axis during a large part of the turn of the century as a pioneering response (more regulatory than generative) to the paradigm shift taking place.

Its critical analysis, concerns and itineraries, experiences and expressions, were going to impel multiple renovating experiences (moved between the morpho-genetic research and the operational strategy) and have motivated the work that is presented here, born with the intention of building a relational discourse, based on a possible shared body of argument, a

relational discourse with the possibility of offering a reading of the changes in architectural and urban thought generated at the turn of the 21st century and especially during the final decade of the 20th. A historical interpretation with hardly any historical perspective.

On more than one occasion, this more or less conscious, more or less spontaneous desire for inquiry that would characterize a new “framework for action” generated more as a virtual network of complicities and explorations than as an authentic binding or common dogmatic structure.

A framework that would demonstrate the possibility of generating a new and possible “collective adventure” beyond a mere collectionism associated with the cult of personality or brand images.

A large part of the turn of the century and the beginning of the current one has been characterized by the emergence of an awareness of this new propositional initiative and an attempt to articulate it, track it and materialize it through a possible, more or less shared, narrative: a “common plot” “more “immanent than decidedly imponent”.

The importance of the new spaces of diffusion and stimulation, crossing and meeting – more committed to the disciplinary renewal –, would be fundamental to proposing (in an interwoven way) a certain shared interpretation of the post-postmodern project.

This territory of exploration and research, of trials and distant, interconnected experiences – which are both familiar and distant at the same time... – would define a framework for a network of concerns (and explorations), based on far-off exchanges, intersecting stimuli, shared reading, mutual interests, feeding and feedback, which are more or less conscious and/or convergent.

It is obvious that this new desire for exploration would be coupled with a new desire to observe, to converse ... to listen and to transmit ... to generate new references, in any case: i.e., to create new imagery and new “mental maps” that would be

capable of connecting (and interconnecting) with a new world of ideas and concepts that was both identitarian and cosmopolitan at the same time.

On the other hand, this intellectual and cultural effervescence (which is also prospective and propositional), present in many fields of knowledge (economy, art, science, technology) would require a new theoretical construction – something that is not always available in the realm of architecture (less so in official and officiating architecture). As such, it would have to be addressed and approached by those professionals who would be “committed to action”.

Professionals who would end up writing, reflecting and debating about what they had yet to see reflected in “theory” or in the (glossist, erudite, or simply historiographical) descriptive chronicles in circulation.

In this sense, we could talk about a certain “para-theory” developed by “para-theoreticians” who, aside from “producing” and “designing” – doing – would also talk, write and debate – think – about urban, spatial, formal and even moral issues ... concerning architectural attitudes and ethics ...

This explains the boom in forms of expression, transmission and dissemination that were so important at the turn of the century, especially in Europe.

We could say that in the 1990s, while they were building in Holland, in France they were debating and in Spain they were proposing, envisioning and disseminating.

Publications like Quaderns, Fisuras or Circo in Spain, Arch+ in Germany, Archis in Holland, etc.; platforms like Actar Ediciones (Barcelona); meet-ups and forums such as European or Archilab in France; centers like the Berlage Instituut in Rotterdam, Columbia in New York and MIT in Boston, studios like the ones at the AA or Bartlett in London, would be fundamental in this scenario of fledgling propositional appearances.

In this context, the importance of collective actions like the work by Metapolis in Barcelona (meetings, publications, spaces for debate and teacher training) would express, perhaps like nothing

else, this desire to communicate and celebrate a new ideology, made explicit in the Metapolis Dictionary of Advance Architecture and at the IAAC (Institute for Advanced Architecture of Catalonia) launched at the beginning of the XXI Century. In this sense, the end of the first decade of the 21st century was characterized by the appearance of new technological advances and of new conceptual contributions; new sensibilities that have grown according to a formation that is open to reflecting on complexity and the importance of the interactivity that we have described here.

A new generation of concerns and proposals called on to set off this fundamental digital revolution – associated with the assumption of an informational interaction as an undeniable part of a new space-time-information that is less lineal in its behavior – approaching it from parameters not just of synergy with the context, the landscape, the place or the city (or among structures, types and programs) but from a positive exchange with the medium, with society, with the use and the user; between the city and the citizen; between the polis ... and, why not? ... politics, understood as the horizon for collective action. Sensorization and parameterization, data optimization, design of intelligent interfaces and design of responsive devices: today, the ascalar transfer devices that were characteristic of much of the research in the mid-1990s are no longer so necessary; rather, there is a more empathic, more “natural” and spontaneous approach to the environment, , called on to combine “sense and sensibility”.

Indeed, the main idea, then, is this desire to enter into resonance with the conditions of the reality of the time and simultaneously qualify them, from a critical standpoint.

Specifying methodologies, investigating processes, generating and simulating scenarios and, above all, producing “better” operations in a re-informed reality; these are the new challenges for this ongoing investigation.

An investigation that alludes to this double desire to produce and to connect ... to this desire for inquiry, exploration, restless

curiosity and daring production, which is implicit in the double meaning of the word “investigation”.

From its connection to the words research, *recherche*, *ricerca*, *recherche*, , i.e., from the Latin *recercare*, searching and searching again ... as well as the associations with investigation, *investigación*, investigation, i.e., investing, positioning, risk-taking, but also turning things over... disrupting in order to create.

Re-searching and investing ... this double meaning – both analytical and creative, codifying and decoding, restless and enterprising – underlies the collective adventure that we are engaged in today.

In this individual and collective desire to explore, to investigate and delve into the current conditions of our own environment, the new scenarios and areas for exchange – and the organization systems associated with them – we can observe a clear desire for an implication in the culture of our time, reclaiming the active role of architecture in understanding, interpreting and designing contemporary space...

Reclaiming, in fact, the role of architecture as an endeavor that is cultural, intellectual, creative, technological, scientific, social and political at the same time: a collective adventure (and not a mere record of individual brands or personalities) with the ability to connect ethics and aesthetics with a time period... an activity and an approach ... a professional activity and an intellectual attitude.

With the capacity to continue defining our environment qualitatively, in order to create a better habitat, i.e., a type of habitable space that is in consonance with the ambitious preoccupations – rather than the contingent inertias – of society itself.

Not according to its tastes, but in keeping with its ambitions (i.e., with the capacity to encourage intellectual curiosity, social interaction, a creative stance, and cultural projection) based on new types of spaces (planned or built) that are more imaginative, more empathetic, more open and, ultimately, more stimulating.

Part 1

OBJECTIVES

Outlook, Reading, Interpretation

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- 1 **SURVEYS:** Initial Declarations, Ultimate Intentions:
An Explorative Advance
- 2 **KEYS:** Another Outlook, Another Interpretation.
(Reading Layers, Onion Layers: Explorations vs. Chronicles).

Aerial deployment maneuvers, 1944. (archive).

On December 17, 1903, more than a century ago, the Wright brothers' plane took flight for the first time over the beaches of Kitty Hawk. At nearly the same time, "The Great Train Robbery" by Edwin S. Porter was being screened, the first film that explicitly revealed the depth of the frame and subjective editing.

Three years earlier, in 1900, Sigmund Freud had published "The Interpretation of Dreams", opening the century with a new perception – and conception – of the psyche and the world.

Only two short years later, in 1905, Albert Einstein published his fundamental article on the Special Theory of Relativity, confirming the break with the former separate notions of space and time, and their definitive link within a new space-time characterized by relative positions – and positioning.

One year later, in 1906, Henry Ford was getting the Model T ready, fostering not only mass mobility but assembly-line production, materializing Taylor's efficiency techniques and William James's pragmatic theories.

And in 1907, finally, Pablo Picasso finished "Les Femmes d'Alger", the painting that would identify "cubism", i.e., the analytical division of the object and its fragmentation into multiple contrasting facets.

In barely five years, then, there was a coincidence of decisive contributions destined to transform scientific, technical and intellectual understanding from the previous century.

Although some attentive observers would intuit the individual or combined importance of those contributions, the development of those advances would consolidate a new type of operative logic applied to the definition and construction of space.

A new logic that would confirm that the classic "symbolic" logic had been overcome and substituted by a new type of logic, a more material – more objective and objectual logic, qualified as "modern".

A more rational (but no less deterministic) logic arising from a new fragmented and planimetric, mechanical and sequential

vision of space, referring to the exact definition of both the object and its relative position (or positions) – on and above the ground plane – i.e., a "mechanics" that is largely abstract (essential) in its form and serial (industrial) in its production, associated with a certain, preferably pragmatic – if not severe or "stripped down" – interpretation of reality itself.

The "post-modernity" associated with turn-of-the-century revisionism was later aimed at tinting or covering up the "dryness" of that conceptual logic, and its functional and productive effectiveness, with a certain "regression", a possible neo-traditional language or calligraphy.

In the mid 20th century, new and decisive advances occurred simultaneously in different areas of knowledge.

On the one hand, the "monofocal" projected image of cinema's big screen was expanded by the introduction of television's small screen into homes, in the mid-sixties, and the transmission of multiple, multifocal images in a space where real and virtual scenarios – and messages – could overlap and coexist – which would be aptly reflected by Marshall McLuhan in *Understanding Media* (1964) or Guy Debord in *Société de l'espectacle* (1964).

In the mid nineteen seventies, IBM also perfected their computing systems using technologies based on windows and their definition through overlapping layers of information. Shortly thereafter, in 1969, the Internet was born – the first network – based on interfaces connecting research centers at UCLA, the SRI, UC Santa Barbara and the University of Utah.

In 1961, Murray Gell-Mann's study of elemental particles (the well-known history of quarks) and the computational development of quantum physics and its paradoxes closely preceded the publication, in 1963, of Edward Lorenz's text on non-periodic flows, with its decisive influence on chaos theory (the famous "determined indeterminism") as well as on James Forrester's 1969 definition of "dynamic systems" (D.S.) and their application to the changeable understanding of

nature, put forward by Benoît Mandelbrot in his studies of irregular geometries in the well-known text *Fractals: Form, Chance and Dimension*. The discovery of the double helix of DNA and then the genetic code in 1961 gave way to the human “Genome Project” and studies on biological information and its connection to the processes involved in genetic evolution.

The nineteen sixties fluctuated between Lacan’s writings and his theories on the ego and desire, Foucault’s structures and Derrida’s deconstruction or the Situationists maps and Deleuze’s subsequent conceptual folds – i.e., between developmental optimism, imaginative indiscipline and the resilient option that seemed to be suggested by the moon landing in 1969 or the crises post May ’68 and the birth of environmental consciousness at the beginning of the following decade.

Although some attentive observers sensed, even then, the individual or global importance of those contributions, it was the parallel evolution of processes, which emerged and evolved in conjunction with those advances, that began to consolidate what is, today, a new type of operative logic related to the definition and construction of physical space and, therefore, to architecture.

A kind of logic that would, indeed, confirm our having overcome a predominately objectual (modern) logic and its orientation, in a move toward a new more open type of logic – i.e., a more “dynamic” and “complex”, more “interactive” and “reactive” or simply more “advanced” logic – resulting from the dynamic meeting of space, time and information.

An *informational* logic that is more sensitive to complexity, more permeable and impure – more relational – derived from a new simultaneous, “multiple” and “multi-layered” vision, based on diverse stimuli in a mutual interaction and which is therefore open to the development of possible “irregular” processes of change and exchange; i.e., a new kind of evolutionary arrangement that is more positively

“inform(ation)al”, associated both with the combination of events and with combinatory structures.

A logic of complexity that would effectively substitute the notion of “relative position” with that of “interactive disposition”, favoring a new approach to reality (more “operative” as opposed to strictly “pragmatic”, more “relational” as opposed to “objectual”) that can incorporate unheard-of expressions that are transgressive and even paradoxical, where nature can combine with the artificial, the real with the virtual, the systematic with the differential, the synthetic with the expansive.

What major changes would be brought about by this kind of logic?

The fact that it places an emphasis on developing (complex) systems as opposed to designing (refined) objects and those evolutionary, plural, changing, irregular systems – or processes – reveal a shift from a static and figurative conception of space toward a definitively dynamic and relational, evolutionary and definitively *interactive* conception. Less linear – and codified – in its developments and in its possible manifestations.

The emergence of this shift has left its mark on the past two decades: the explorations, anticipations, falterings and transitions, definitions and precisions have generated a framework for action shared by different avenues of investigation that are especially involved with a reinterpretation of urban and geographic phenomena.

These expressions may be rejected or celebrated, challenged or defended, but there is no doubt that they are worth studying, describing and investigating as evidence of a distinctive foundational moment and a certain “ideological battle”.

The following book is dedicated to that collective adventure.

TRANSFERS >

EARLY 20TH CENTURY

Contributions to knowledge

- _ 1895/1900. The birth of cinema
- _ 1900. Sigmund Freud: "The Interpretation of Dreams"
A new conception of the individual self
- _ 1900. Max Planck: Energy quanta
- _ 1903. E.S Potter: "The Great Train Robbery"
- _ 1903. Wright brothers: First manned flight
- _ 1905. Albert Einstein: *Theory of Relativity*
- _ 1906: Henry Ford: Launch of the Model T
- _ 1907: Pablo Picasso: "Les Demoiselles d'Avignon"
- _ 1909: Arnold Schoenberg: First atonal composition
- _ 1910: Vasili Kandinsky: First abstract watercolor

Technological, intellectual, cultural and scientific changes

- _ A new functional, objectual and objective or
"positional" interpretation of space
- _ Space-Time Link
- _ Rational, material and industrial thought

20 to 50 years late

- _ Changes in architectural and urban thought

Mid 20th century

- _ Modern logic
- _ Rational, abstract, universal

A SHIFT IN LOGIC

MID 20TH CENTURY

Contributions to knowledge

- _ 1960. Televisions appear in homes
- _ 1964: Marshall McLuhan, *Understanding Media* /
Guy Debord, *La société de l'espectacle*.
New conception of the social being.
- _ 1965. IBM. Development of the computational system
based on "windows"
- _ 1961. Murray & Gellmann: Development of quantum
physics. Elementary particles.
- _ 1961. Discovery of the structure of DNA
- _ 1963. Edward Lorenz: *Chaos Theory*
- _ 1969. Jay Forrester: the formulation of *System dynamics*
- _ 1969. Benoit Mandelbrot: the formulation of Fractal Systems
- _ 1968. Birth of the Internet

Technological, intellectual, cultural and scientific changes

- _ A new dynamic, procedural and relational or
"dispositional" interpretation of space
- _ Space-Time-Information Link
- _ Complex, transversal and digital thought

20 to 50 years late

- _ Changes in architectural and urban thought

Early 21st century

- _ Informational logic
- _ Complex, advanced and/or interactive

1 SURVEYS

Initial Declarations, Ultimate Intentions:
An Explorative Advance

“Adaptation is the ability to withstand the typical changes in an environment. Adaptability is the ability to withstand brand new changes. Adaptation prefers certainty in the environment; adaptability responds to uncertainty.

They are not one and the same. Perhaps the key to understanding biological evolution is not the concept of adaptation, but adaptability. (...)

If the uncertainty in an environment increases, an active adaptability can be maintained by increasing the system's capacity for anticipation (improved perception, better knowledge, etc.), or increasing its ability to influence its immediate environment – i.e., with more mobility (the ability to move to a new environment) or more technology (the ability to effect a change in the environment).

If active adaptability fails and the fluctuations in the environment do not allow for maintaining a stationary state, the possibility of a new adaptability remains. It is called evolution, and it is achieved through the combination of pre-existing conditions; prominent strategies include reproduction, symbiosis or other types of association. In this case, the equations are clear: an increase in uncertainty in the environment requires an increase in the system's complexity.”

Based on Wagensberg, Jorge: “Complejidad contra incertidumbre,”
El País 1/12/2000

I. Run-Up as Preface

This book intends to examine – and acknowledge – the birth of a new line of architectural thought and a new, still incipient, spatial logic: a more open (advanced, transversal, dynamic, interactive, or *informational*) logic involved in a new conception and a new approach to space, the city and – ultimately – to the architectural order itself and the *form* associated with it.

Its development has centered on the analysis of a particular process of transition, of genesis and evolution – including practices, research, times and scenarios – which has come to characterize the past two decades: a “historic” scenario with hardly any historical perspective.

1.1. A group of pedestrians in movement. Zaragoza, 1996. Photograph: Adrià Goula
Free movement through space: like in any dynamic process of *space-time* development, the freedom of movement and the exchange of information favor a growing positional irregularity in the system. Crowds, cities, constellations, flocks...respond to the open and heterogeneous logic characteristic of dynamic systems of non-linear evolution.

Its aim is to synthesize different approaches and reflections expressed throughout the years on different fronts into a single *corpus of debate* and to review the different pioneering attempts that have emerged during this particular moment of transition. The purpose of this book is to establish a possible framework for interpreting the contemporary design scenario, putting forward a new theoretical construction – that is both rigorous and intentioned at the same time – with the aim of connecting different lines of action, which coincide but have not been provided with an adequate global interpretation.

The main premise defended here is, essentially, the emergence of a new type of thought – a new operative logic – over the past twenty years, associated with the progressive digital (informational) capacity to manage, process, program, exchange and synthesize information: a new territory for research and a new shared “mental map” implicated in a more open, more dynamic and irregular conception and organization of space and in a new architectural logic..

A new logic based on a more effective, less prejudiced and relational formulation of *information* (understood in the broadest sense as an active vector of exchange – not just as “data” or “datification”, but as a message, a stimulus and/or a dynamic demand).

A new *informational* logic related with the own digital revolution and the progressive understanding of the dynamic systems and open (irregular) structures that define our environment, called upon to combine multiple events and heterogeneous processes in multiple fields of interaction, action and vibration.

This suggests a positive assimilation of the conditions of contemporary reality, its heterogeneity and capacity for change, the indiscipline of the phenomena that define it and the variation of different multi-scalar processes ingrained in it. Therefore, it also refers to the need for conceiving new kinds of *devices* (structures, orders, organizations, systems, etc.) to be used in approaching

this complex – i.e., dynamic and simultaneous, mutable and irregular, interactive and *informational* – dimension of our environment, based on a new operative and instrumental approach intended to celebrate diversity and complexity, as opposed to resolving it. The important leap of scale experienced by cities and territories in this last turn of the century and the important mutations derived from them - but also the theoretical and operative understanding (through digital computing) of their inherent interactive (informational) condition - have made us especially conscious of the complex and dynamic, unstable and multiple nature of the new scenarios and processes linked to them.

In an initial period of research, certain pioneering experiences recognized a virtual field for investigation in the manifestation of this new complex “multicity”, in its mechanisms and trajectories, in its movements of folding, refolding and unfolding, in its dynamics of agglomeration, interconnection and expansion – in its growth, its networks, its voids – to serve as the foundation for an exploration and the approach to a new instrumental device capable of ensuring possible *trans-scalar* links between local contexts and global scenarios.

That exploration implied an ambitious overcoming of the spluttering *postmodern* pretext and all of its revisionist rhetorical paraphernalia, but also it also involved moving beyond a possible permanence of a hypothetical *neo-modern* order, toward its replacement by an authentic “change in course” in design culture and contemporary thought associated with what could be called a “complex logic”, an “advanced logic” or an “informational logic”, which – beyond absolute and unitary classical space or relativized and fragmented modern space – proposed a new type of contemporary, multiple and multiplied space that is combined and related in and through an endless series of evolving layers in mutual interaction.

A definitively complex, dynamic and interactive space.

The true paradigm shift we are seeing today is rooted in this triple complex, dynamic and interactive assumption of space.

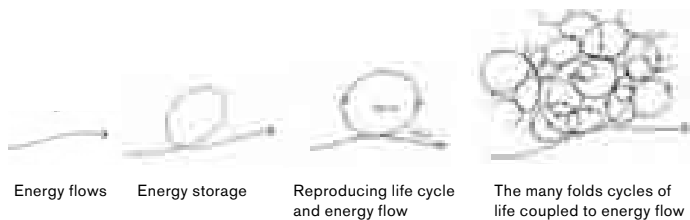
A change called on to orientate and to celebrate complexity (i.e., the capacity to combine simultaneous layers of information) in new conditions that are less prearranged or prefigured, and which are capable of favoring a greater degree of interaction (i.e., a greater degree of variation and exchange) between information and events, now not as merely “additive” episodes but as (inter)active stimuli intended to combine a global system with local information.

Where any increase in the level of exchange of information in a system implies a potential situation of “latent change”, then working with this contemporary evolutionary and interactive condition of complexity should encourage taking up a new, more open – i.e., not closed off, but also not predetermined – conception of the dynamic processes and systems associated with it.

A conception that can be *active* and *reactive* at the same time,¹ capable of connecting and relating positively with the conditions of the environment, the surroundings and reality as a whole.

Not just in order to assimilate them – to simply fluctuate with them or to better adapt to their impulses – but to confront them and reformulate them qualitatively, making the most of their particular – and diversified – potential.

It is in this sense that we are interested in analyzing this new connection between the contemporary approach to space and a possible open formulation of the notion of complexity, understood as it is presented in the text by Jorge Wagensberg that precedes these lines: as an evolutionary vector that is global and local, reactive and interactive at the same time.



1.2. Diagrams of energy flows and exchanges during entropic development

A linear energy vector represents an input of information and energy.

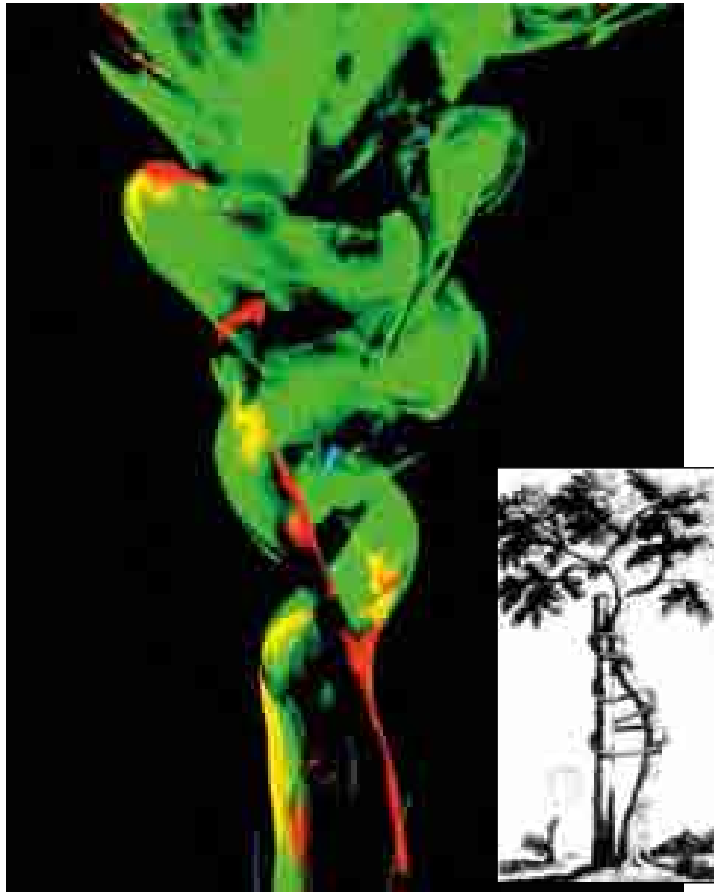
An initial twist is multiplied and/or distorted exponentially as new exchanges are produced.
(in MAE-WAN HO: “The New Age of the Organism” in *Architectural Design* n. 9/10, vol 67, 1997).



1.3. Experiments in Unstable Chaotic Typology

In a bed of apparently stable viscous paint there are two darker stains, regular and inert. The addition of dynamic energy stirs both substances together, creating – and multiplying – processes of exchange that result in more irregular formations, arising from the mutual interaction between the initial medium and incidental information.

(in James GLEICK, *Chaos: Making a New Science*, ed. Viking Press, New York, 1988).



Gas trees (turbulences moving freely through space) and a "trained" tree

The effort toward controlling and predetermining – conforming and pre-forming – processes according to stable, fixed (and prearranged) models ends up "exploding" (into freer and more spontaneous conditions for the occupation of space), leading to irregular, dynamic and non-linear processes of space-time expansion.

1.4. Turbulent gas tree (J. BRIGGS: *Fractals: The Patterns of Chaos*, ed. Thames & Hudson, London, 1992).

1.5. A "trained" tree (in *Arch + n.* 119-120, 1993).

II. Order and Form: Equivocal Terms

In most dynamic and informational systems of complex and irregular definition, their movements and trajectories tend to evolve unlimitedly and spontaneously in conditions of free development and expansion.

However, despite the apparent lack of formal discipline in their multiple evolutions and bypasses, they tend to adhere to basic nuclear criteria – "horizons of certainty" – that underlie those processes: flexible patterns that are capable of inducing movements, adhering to nuclear "instructions" that adapt, modify, change, transform and evolve as they react "in" and "to" the medium.

These kinds of situations – involving an "entropic leap" between information and organization, between individual events and global configurations – are interesting because we can recognize basic operative patterns and multiple contingent variations in the shifting trajectories of any evolving system: plural spatial trajectories are generated through direct relationships between local situations (conditions and information) and global organizations (instructions and dispositions).

Effectively underlying this type of questions, we find the slippery notions of *form* and *order*.

Whereas a large portion of the critical discourse for a significant part the past half century was important, at the time, for the emphasis it placed on those terms (conceived secularly as principles that were "guarantors" of coherent, unambiguous or stabilized architectural space), today both concepts appear to conflict with the conditions of a stubbornly undisciplined environment that appears to constantly contradict their old watchful, regulatory and/or figurative attributes.

Nevertheless, those terms – which have been particularly *sullied* over the past two decades² – should be understood here not just as "linguistic codes" but as notions that are necessarily implicit in any theoretical approach that refers to systems for the organization and formulation of space (which are the focus of this text).

However, in contrast to the usual compositional analyses, this investigation does not refer to form as an object and a figurative – typological or semantic – objective, but rather to “form” as “formation” or, better yet, “formulation”, i.e., as a “dynamic trajectory” resulting from a process that is virtually evolving and variable in space.

In this sense, we will explore a more “unstable” – or virtually unstable, i.e., incomplete – interpretation of the idea of *form*: a more *informal form*, in that it is *informational*, which we have called *extraverted* because of its open, restless and engaged nature.

A form that, extending beyond itself, could explain and specify the processes, movements and situations that would demand and foster it, favoring the expression of multi-scalar, global and local connections and interactions “with” and “beyond” the host environments where it would be found and “with” and “between” the different particular events that would serve to determine it. We are interested in delving into the open – “unfinished” in that it is “externalized” and “relational” – character of contemporary form, as well as its “predisposition” to expressing itself in a more elegant and liberated way, i.e., more directly and *un-subjected*.³ Intimately associated with this type of approach, we will observe a new, more elastic – or permeable – idea of *order* linked to the nature of non-linear dynamical systems.

A more *disordered* order, understood as a “flexible agency”, i.e., a contract or an evolutionary apparatus, rather than as a strict control mechanism.

A more paradoxically *undisciplined* order (because it is determined and indeterminate, oriented and fluctuating, precise and diffuse, “singular” and “plural” at the same time), which we will also call (in relation to different approaches) *informal and/or informational*⁴ (because of its link to a new, more irregular and heterogeneous understanding of space – and time – involving the interchange, influence and interaction of information.



1.6. Breaking with categories: the topological transformation of a cube into a sphere
Agnes HEGEDŰS: *The Virtual Print Machine*, Center for Art & Media, Karlsruhe, 1994 (in *Architectural Design* n. 11/12, 1994).

III. Open Logics

Many current cultural preoccupations, in fact, tie in with these considerations, which in turn would suggest interconnections between different areas of knowledge (from mathematics to biology, from genetics to physics) that are directly implicated in the “comprehension” and “compression” of a new type of open order (that is more interactive and infrastructural, but also more indeterminate and informal) and the phenomena that are associated with it. Technological advances related to digital and informational processing; dynamic systems theories and their application to new spatial structures; fractal geometry and its influence on a recursive and topological definition of form (as well as its implications for a new “digital genetics”); the awareness of interactive processes and their effect on the environment; the analysis of evolutionary behaviors and its application in the approach of (nonlinear) self-organized structures, etc.; all of them would be some examples of cross-cutting visions that would bring together the interests of space-related disciplines and, of course, architecture among them.

Indeed, these dynamics involving times, spaces and scales ultimately refer to a new understanding of medium – setting, place, context, etc. – and space in general as an “environment” or an open, dynamic, multiple and multi-scalar “field” of forces, as opposed to a merely physical or figurative “milieu” or “context”. As such, these dynamics call for a new holistic definition of the approach to space as a dispositional action, which is active and reactive, as opposed to a simple compositional response: a dynamic and dynamizing ability capable of reacting to a place and eliciting a reaction to a time.

With the ability to combine generic (abstract, global) logics and specific (concrete, local) conditions.

In other words, “scalar leaps” between general criteria and particular solicitations. Strategic and tactical movements. Reactive and operative.

–**Strategic** for its ability to associate actions and movements with comprehensive processes and systems.

–**Tactical** for its ability to adapt the general to the concrete, processing and synthesizing different – simultaneous and synchronized – information and demands in conjunction with the action performed.

–**Operative** for its ability to trigger operations “in” a place: adjusting and adapting, concentrating and expanding programs, structures and events.

Rather than “regenerating” (completing) or “transforming” (redefining) the medium or the given reality, it would be a question of reacting and “resonating” with them to reinform them (to restructure them, to *reactivate* them) transcending their inertias based on an assimilation of their dynamics: multiplying the implicit relationships of exchange; recognizing, selecting and processing the most relevant and significant (i.e., potentially operative) information; but also promoting (encouraging) developing (generating) and combining (programming) real and virtually “dynamic” trajectories all at the same time.

These approaches will ultimately refer to a new understanding of the city and contemporary urban organizations – their “movements”, their changes, their points of tension and their “behaviors” – fostering an active approach to the *space-time* structures that depend on them, as well as a new and hypothetical ability in design to “adapt” or to “adjust” to these definitively “open” processes – because they are dynamic and characterized by a high degree of underlying plural indetermination, but also due to their progressively diffuse (“unfinished”) configuration and the high level of interaction present on all levels.

Following page: As the capacity for (and freedom of) movement and exchanges in space increases – and therefore the capacity for occupation – the archaic compact form of cities is fractalized following recursive patterns associated with dynamic and irregular structures

1.7. Simulation of the growth process in Berlin from the 17th century until the end of the 20th, according to studies by Hernán Makse, Shlomo Havlin and H. Eugene Stanley (Boston University) (in *Nature* 377, 608-612, 1995).

1.8. Fractal density distribution and its assimilation to Berlin's meta-urban structure (in *Arch+* n° 121, 1994).

1.9. Diagrammatic trajectories as urban “epitomes”. Recursiveness between a profile of urban accumulation and a combinatory development diagram.

IV. Transfers

The contemporary city appeared initially as the most evident manifestation of the progressive dynamic and informational condition of our environment, which lay beneath its complex and irregular nature.

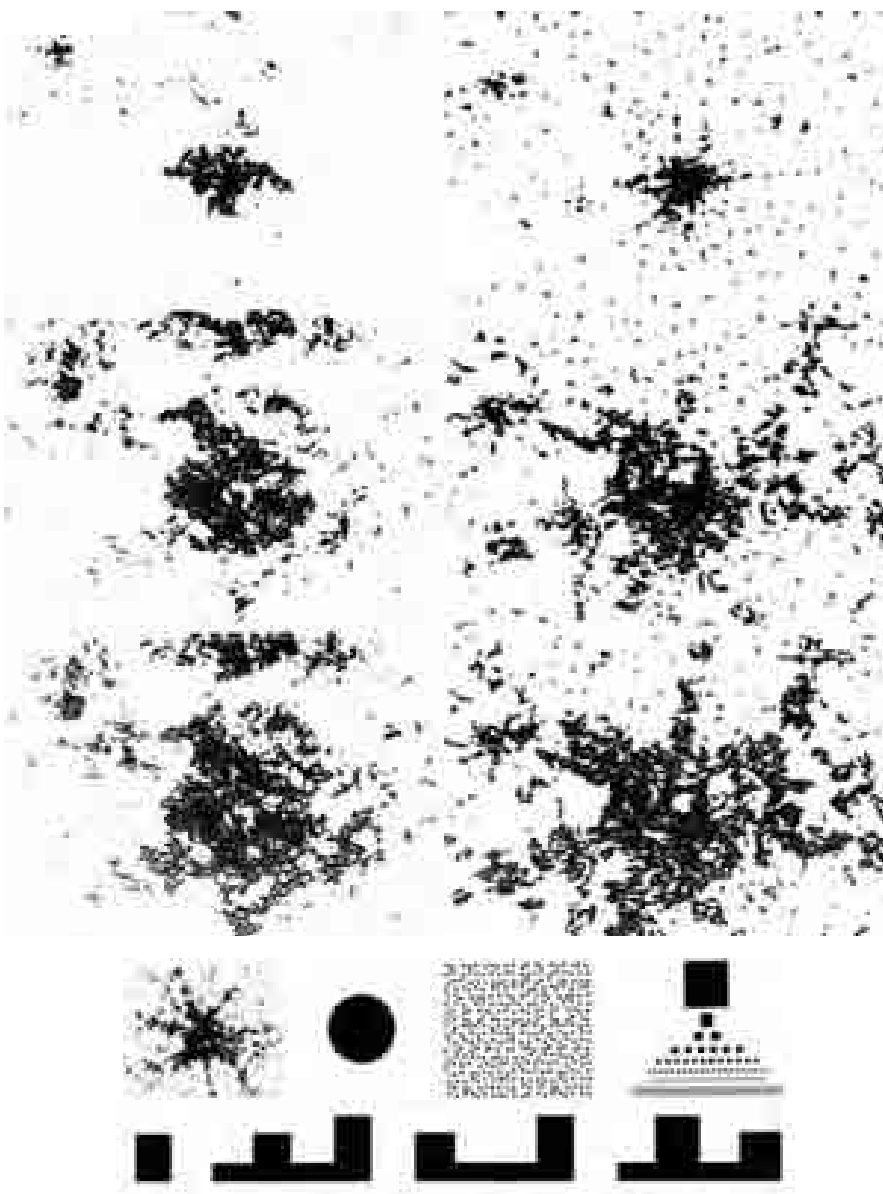
It is not surprising, then, that the conceptual transformation of contemporary design would tend – during the initial period of trials and research that what we intend to cover in this text, with the decade of the 1990s as a pioneering moment – to be oriented toward the investigation of relationship mechanisms that might “resonate” strategically with (rather than “evoke” or “reproduce”) the processes that have come to structure the new “multi-polis” today, in order not only to assimilate them but to reinterpret them instrumentally.

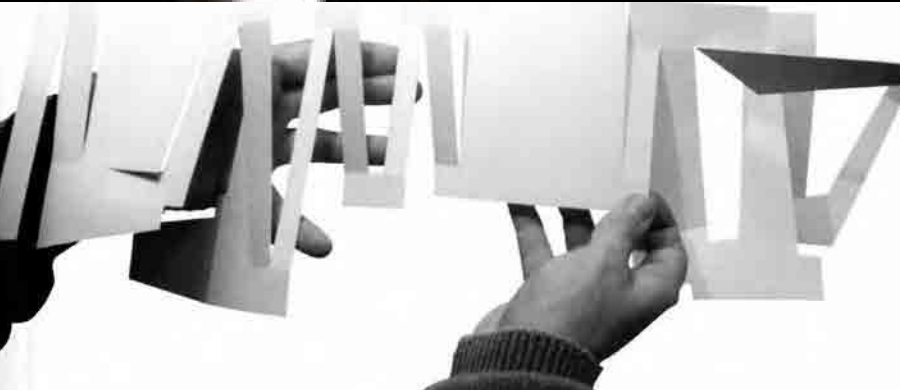
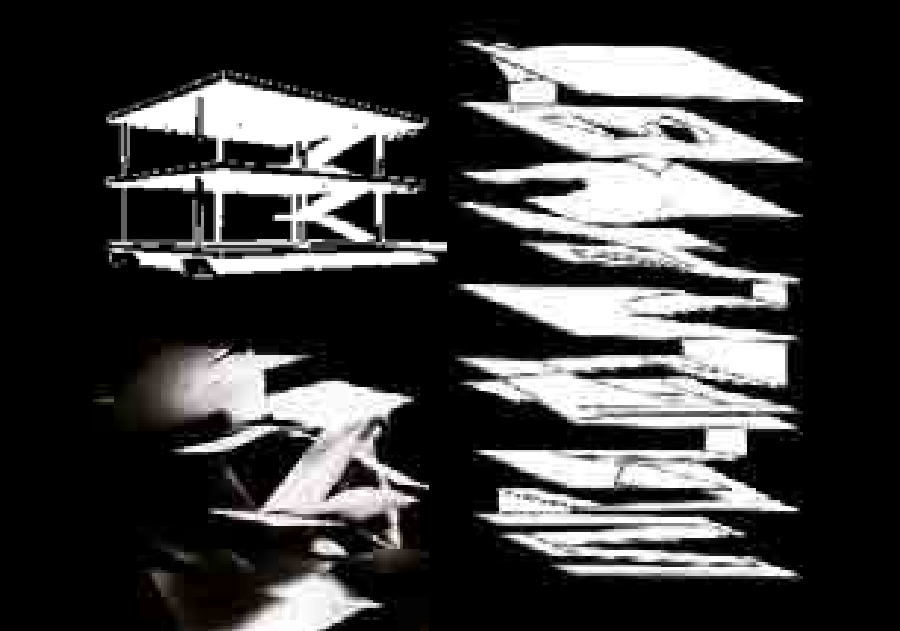
Forcing design to move beyond a reading that is sometimes excessively focused on circumstances in order to connect with the open processes of the city, which have their own complexity and scalar transversality, as the most immediate manifestation of a new more complex and more dynamic spatial conception, which would attempt to address urban configurations themselves, associating them with new design mechanisms.

Promoting a possible understanding of the project as a “local map” of the “global scenario”.

The project would appear thus – in certain especially paradigmatic cases during this initial moment of transversal explorations – as an “a-scalar” synthesis of an ultimately “multi-scalar” city.

An epitome – an “extract”, a “synthesis” – of its own developmental dynamics; but also a *transfer*: a *glocal* (global and local) energy exchange, in synergy with the place but also capable of shifting it toward other scenarios “beyond” the limits defined by the context, in a “scalar leap” between highly significant systems and subsystems *in process*.





Research in recent years has stood out for a more advanced current focused on “crumpling” essentialist – and reticulated – modern space and transferring it into new structures and geometries that are more flowing, elastic and irregular

1.10. Le Corbusier: Domino House.

1.11 and 1.12. Rem KOOLHAAS, OMA. Manipulation and folding. Jussieu Library, Paris, 1995.

1.13. Spatial deployment of the plans. SORIANO-PALACIOS. El Aguila, Madrid, 1995.

V. Protologic and Protomoment

The experience of this potential connection between design and the contemporary city, as well as between dynamical systems and the irregular structures associated with them, allows for proposing a possible *map of virtual relationships* associated with this open, transversal and interactive *informational* logic, which we intend to acknowledge as the explicit manifestation of a new proactive thought.

Paradoxically, it is in this “leap” – which refers to and resists a certain time, and is critical (faced with the typical scenarios of inertia, conflict and routine fostered by the city itself) and positive (faced with a dynamic potential) – where we observe some of the most explicit attempts at disciplinary investigation and renewal.

Proposals that attempted to try out and bring to life, for the first time, new approaches intended to connect the organization of space with a new, more complex understanding of the global cultural and technological framework.

The work presented in this book intends to address this particular moment of inquiry, intuition and transition, which emerged specifically during the last two decades (i.e., at the turn of the century) with the awareness that this moment would constitute – and still represents today – a “state of flux” or transition between the final remnants and reformulations of modernity and the most vehement manifestations of what we present here as a “new logic” – one that is more operative and more advanced.

This logic is not only architectural; it is *transarchitectural*,⁵ connected with the development of new digital technologies for processing, transforming and exchanging information and, as such, based on the assumption of a *space-time-information* related with what has come to be known as the “*digital universe*.”⁶



Fluctuant spaces with dynamic configurations

1.14. UN Studio: Yokohama Terminal, 1995.

1.15. NOX-Kaas Osterhuis: H20. Pavilion, Neeltjeans, 1997 (*Quaederas* n. 218, 1999).

In effect, technological advances have not only let us (re) produce processes and simulate development, faster every day; they also let us animate structures, generate conditions and interactions, propose trajectories and design increasingly complex configurations in “synthetic” ensembles that are not always harmonic, stable and cohesive.

The digital world seems to animate – in an incipient phase – an *informational* space full of possibilities that are still in an emergent form; a space that is more open to systems – or devices – that are capable of interacting and reacting, resonating and connecting with reality, acting and transforming in it, with it and beyond it at the same time.

This suggests a new period in architecture, which will probably imply new technical, cultural and spatial concepts that have only been intuited up to this point as anticipated “potentials”.

During the pioneering moment of transition we are focused on here, these “potentials” are proposed from what Federico Soriano so aptly called “*the folds of the modern movement*”⁷: the final “twistings” (or “wringings”) of static structures – and logics – whose dynamic deformations would allow for (expressively) anticipating a whole series of ongoing investigations (interrupted for years by neo-traditionalist reconsiderations), that allude at the same time to a progressive dissolution of old established volumes and the geometries associated with them.

In that sense, this text can be understood as a kind of history book with hardly any historical perspective: the history of a process – and an adventure – that is still taking place.

It is founded on issues of perception and representation, geometry and structure, configuration and organization, and on their hypothetical relationship to the new concepts that would constitute a more variable and evolving vision and understanding of our own reality.

But also on their relationship with what is proposed as a less prejudiced, more uninhibited attitude – a more expansive and

extraverted approach, which is implicit in its manifestations. Because that is fundamentally what we are addressing: the intuition and materialization of a “protologic” (associated with a “protomoment”) inherent in a situation of latent change, expressed – as has been noted by Aaron Betsky and Manuel de Landa⁸ – in an architecture that is more “advanced”, to the extent that it is more “dynamic”, “dynamizing”, “anticipated” and “anticipatory” at the same time:

“If in many mythologies ironworkers – blacksmiths and iron forgers – were the forerunners of architecture, perhaps it is because architecture, like iron, has this ability to find the moment in time when the material reaches a change in state and it has many and diverse possibilities within its reach, and it stretches and pushes them until they become fixed in a moment of strength, beauty and action...”

1– “Beyond the ‘topological stage’, the ‘projective stage’, and the ‘Euclidean stage’, the ‘reactive stage’ situates the individual in a clear consciousness of the reality in which he is developing and in where, without scholarly or instructive stances, he begins a new and fascinating journey of experimentation and searching. The individual goes about taking apart everything he has learned. He acts without complexes, without preconceptions. Attentive, curious, restless and direct, he is fascinated, returning to the question of why things are the way they are.” See SÁNCHEZ, Ana: “La importancia del conocimiento,” in V.V.A.A.: *Entorno. Sobre el espacio y el arte*, ed. Complutense, Madrid 1995).

See also, GAUSA, Manuel: “New Reactive Architecture: Proneist Frame,” *Quaderns* no. 219, 1998 pg. 5.

2– All of the liturgy on anti-, neo- and postmodern “architectural form” and “urban form”, for example.

3– To use the term coined by José MORALES in “Adiós a la Metáfora.”

See V.V.A.A., *Otra Mirada*, ed. GG, Barcelona 2011.

4– See BALMOND, Cecil: “The New Structure and the Informal” in *A.D.* no. 9/10 vol. 67, Sept-Oct 1997; and “New structure und das Informelle” in *Arch+*, no. 139-140, 1997-98, pg. 128 and “La nueva estructura y lo informal” in *Quaderns* no. 222, 1999, pg. 38. On the relationship between “form + information”, see also CASTELLS, Manuel: *The Informational City*, ed. Basil Blackwell, Oxford 1989 and THOM, René: *Structural Stability and Morphogenesis*, ed. W.A. Benjamin, Reading 1975.

5– To use the term coined by Michel Vienne in his “trans-architectures” exhibitions (1, 2 and 3); these paradigms became evident in the “Premières Rencontres Internationales d’Architecture d’Orléans. ARCHILAB 1,” organized by Marie-Ange BRAYER and Frédéric MIGAYROU. Orléans, April-May 1999 (see the catalog published by Archilab, Orléans 1999, under the same title).

6– “A new digital, post-industrial, information society or telematic society is the explicit confirmation of this profound change, which some predict as the end of history, the end of social phenomena, or the end of modernity, and others accept by investigating the consequences of the crisis or the redefinition of the modern project – and modern space. See LLEÓ, Blanca: *Sueño de habitar*, ed. Caja de Arquitectos, Barcelona 1998.

7– See SORIANO, Federico: “Planta fluctuante” in *Fisuras* no. 31/ 3, pg. 64/ 65.

8– The quote is a paraphrase of Aaron Betsky citing Manuel de Landa. See BETSKY, Aaron: “Landscape and the Architecture of the Self” in *Quaderns* no. 220, 1999, pg. 28.

I. Holisms: Slippery Universes

Throughout these pages we have tried to defend a certain holistic reading of recent architectural production based not only on strict disciplinary reference, “good” professional practice or a mere chronicle of events, but on a possible transversal – multi-phased and multi-focal – outlook on the contemporary context.¹ An outlook capable of relating the definition and organization of space/the architectural habitat with the current scientific, social, philosophical and artistic interpretation of space-time associated with it, proposing a possible global framework – a shared territory – for referring to the multiple pioneer manifestations of a new designing and conducting informational logic, disperse in its formulations but consistent in its declarations.

Not for the purpose of building up a common, universal – absolute – corpus for referencing and formulating processes (a model), but with the aim of promoting a possible network of links, connections and accords – intersections and points of convergence – between them.

This holistic approach – more for its globalizing character than for its universality – is not especially new.

It refers back to similar efforts and experiences intended to connect the critical – local – translation of events (their artistic or technical materialization) with the – global – cultural understanding of reality.

“Understanding the nature of things in order to act on the world.”²

Indeed, this is a cross-cutting inclination, given its transversal nature, that also permeated a particular “history of criticism”, from Veyne to Virilio and from Kübler to, at a stretch, Jencks.³ Within the framework of this varied determination, it was perhaps Sigfried Giedion’s paradigmatic essay *Space, Time and*

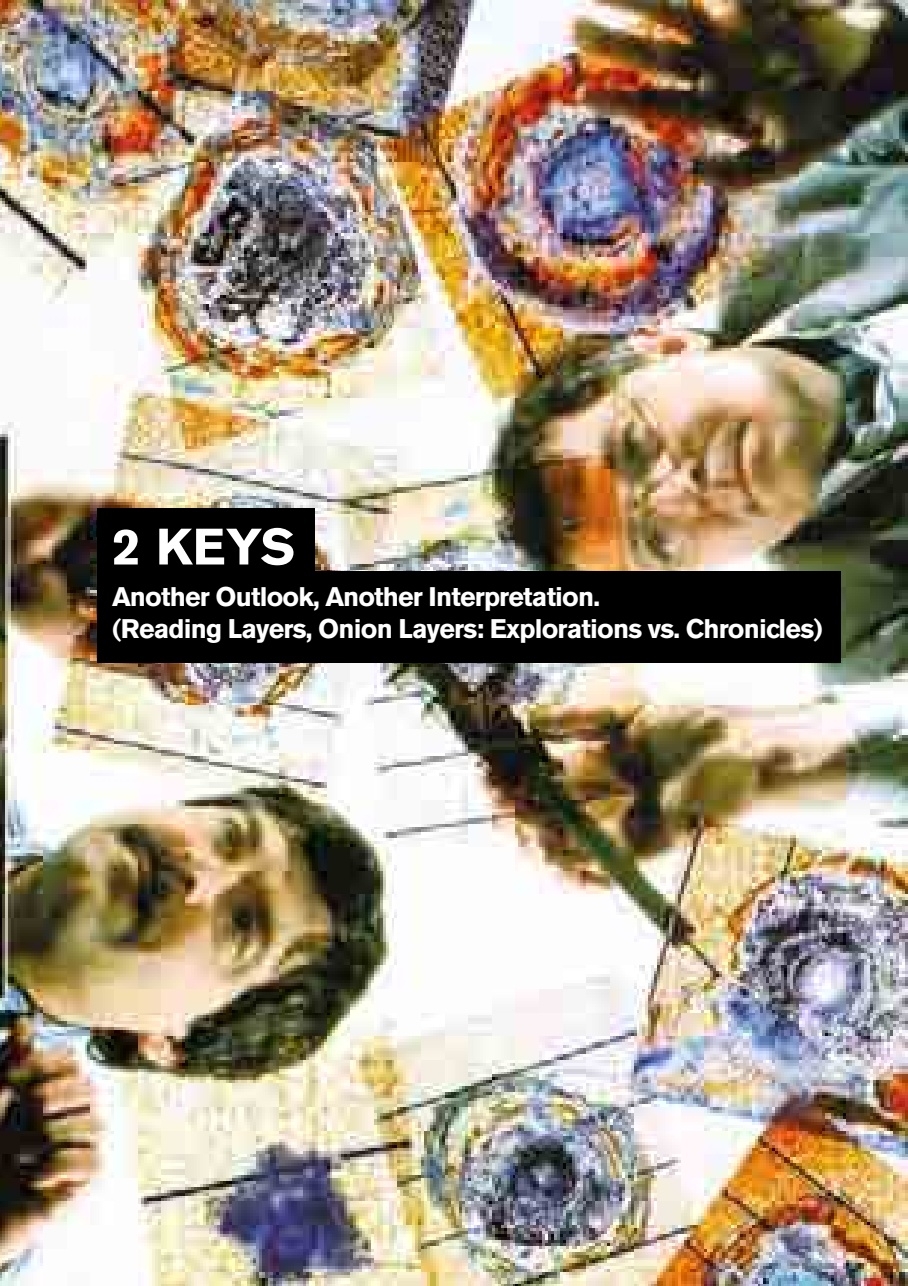
“Nomen est numen, to name is to know.”

Quoted in Benoît MANDELBROT: *The Fractal Geometry of Nature*, WH Freeman and Company, New York 1982

2.1 “Comparing Maps of the Universe” (NASA, March 1999).

2 KEYS

**Another Outlook, Another Interpretation.
(Reading Layers, Onion Layers: Explorations vs. Chronicles)**



Architecture that best summarized this virtual capacity for connection between architecture, art and science,⁴ reflecting the interpretation of space-time processes associated with it and derived from it.

We have made no attempt to hide the influence of Giedion's essay on this work.

Indeed, the publication of his text in 1941⁵ occurred just 36 years after Albert Einstein announced his famous *Theory of Relativity*, which had a serious impact not only on our mental framework for understanding space, but on the tools used for building it.⁶ This was evidence (as we will discuss later on) of the substitution of an absolute classic order – continuous, homogeneous, compact and deterministic – by a new, more relative and discontinuous order, though it was one that placed just as much faith in a strict – rational – control of form and its results.⁷

However, the old Newtonian paradigm and a large part of Einstein's have now come up against the challenge of a more dynamic and slippery universe, where most processes – even the ones that seem the most stable – are extraordinarily undisciplined and end up referring back to non-linear behavior that is derived from their own informational dynamic and interactive nature.



2.2. Roche, DSV & Sie. : "BeaubourgSherehevsky," 1998 in *Quaderns* no. 223 (Loops), 1999.

Today (absolute) classic space and (relative) modern space-time seem to have been succeeded by a more complex, dynamic and interactive space-time-information, which is definitively more open in its manifestations and which illustrates the transfer from the former (classic) idea of composition and the (modern) idea of position to that of (informational) disposition, which constitutes the core of this book.

This transfer calls up questions of perception, recording, mapping, order, organization, form, strategy and responding to the environment. Their respective transformations are what we are interested in delving into here.

Based on these considerations, this book looks to address the contemporary approach to new readings of space and time, in relation to the understanding of dynamic processes, complex structures, and the open phenomena of interaction and co-participation that define how we interpret our environment and how that affects contemporary design.

In fact, and to paraphrase the philosopher Francisco Jarauta,⁸ the greatest limitation of a particular postmodern rhetoric was its preference for the "event" as opposed to the "process" (calligraphy, design, appearance or language as substances and a lack of interest in proposing a possible global narrative, beyond a mere eclectic reproduction or summary). This inclination toward an objectual and self-referential annotation has ended up limiting itself to describing a "glossary" of episodic imagery (not far removed from pure iconographic consumption), which demonstrates a "prolific incompetence for accounting for a new situation".⁹

In contrast to the proposals put forward by those commonplace academic descriptive accounts, architectural form as an isolated object and objective (as figurative, typological or semantic) is no longer the foundation for current research; it has been replaced by "form" as "formation" and as "formulation", as "flexible and topological negotiation" – as the result of an open process that is much more impure, variable and relational.

II. Transversalities. Grafts and Cross-Breeding

The “dynamic revolutions” taking place today only confirm the definitive *coup de grâce* for figurative, uni-referential and closed-off readings, for strictly disciplinary linguistic experiments and for exemplary principles – or categories.¹⁰

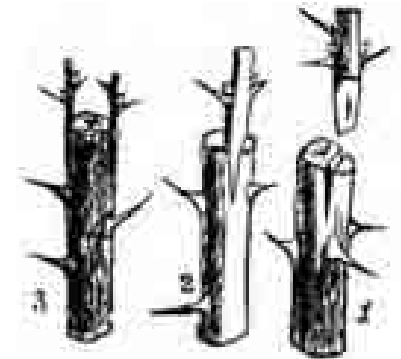
At a time when information and exchanges tend toward multiplication and diversification, synthesis is more useful than just analysis; hazarding a guess as opposed to confirming; exploring as opposed to describing; “crossing” and “intertwining” as opposed to classifying; interchanging experiences and, in general, bringing together trajectories with a capacity for “agreement” and a large degree of synergy.¹¹ The reflections and proposals presented here illustrate the characteristics of this cross-cutting process of transfer, which has characterized the last 20 years of research, inclined to favor other perceptions of space (and other approaches) based on the exploration of the new (phenomenological, technical, cultural, social, geographic, etc.) conditions generated in ever more plural and “heterodox” scenarios.

Scenarios which also require new mechanisms for addressing, reading and orienting: mechanisms associated with activity in design and criticism that is not only interested in describing “events” – episodes – but in addressing (describing, understanding and promoting) “processes” – phenomena and movements – in resonance with a changing global environment through a definitively “holistic” co-participation.

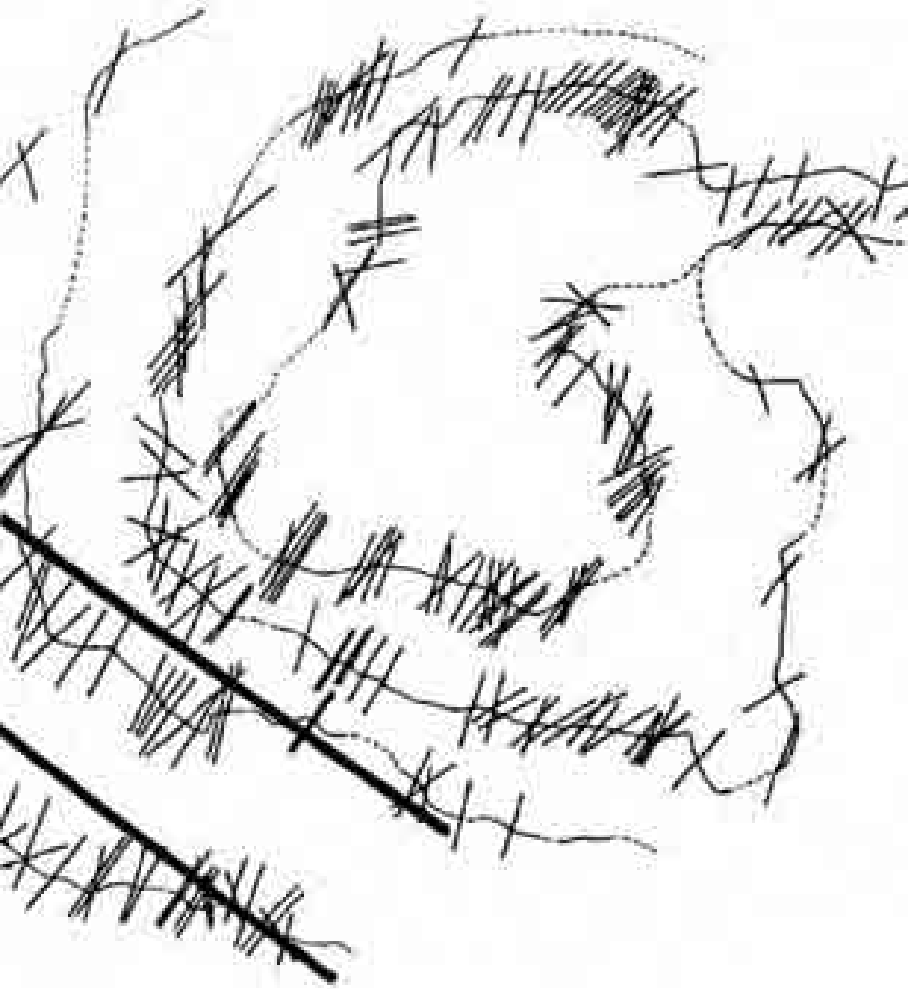
This desire for interpretative interaction proposes a change in outlook: the outlook becomes more open (because it is un-self-absorbed, but also because it is interactive) destined to foster connections or intersections – as opposed to descriptions – between trajectories and experiences, between manifestations and investigations that are diverse and heterogeneous, yet “elastically intertwined.”¹²

We have moved away from disciplines, toward “transdisciplines”: transversal(izing) environments for knowledge. An outlook associated with a trade – a discipline – makes way for one that is associated with research, information, selective criteria.

In these terms, we defend a possible “reactivating” force in criticism and design action. A “re-coding/decoding” operation: because it wants to break down inertias and pre-established conditions, as well as traditionally accepted codes (*un-coding*); but also because it wants to translate emergent and global phenomena, new conditions and new codes (*de-coding*). An action that is both relational and operative at the same time. An action that can create infrastructural links between things, with the aim of extending them across each other; ultimately, to relate them and make them operative. Proposing this possible projective potential in a two-part formulation: as “projection” and “projectation” at the same time – as an anticipation and a prediction of movements; but also as an intersection, as the construction of “relationships and trajectories heaped atop one another by operations at once of encounter and linkage”.



2.3. Cleft grafting (1 and 2) and crown grafting (3), in *Circo* (Injertos) no. 00, 1997.



2.4. Maps of cross-cutting fissures and seams in a mineral mass.
(Pablo GUMIEL: "Reflexiones sobre las analogías geométricas interdisciplinares entre patrones naturales," in *BAU*, no. 014, 1996).

III. Mapping Projections: Beacons, Codes and Keys

Instrumenting this capacity for establishing a "projective link" (in other words, a capacity for recursive design) between different spheres of knowledge, requires *criss-crossing* routes, pointing out correspondences, highlighting convergences, discovering intersections, encouraging junctions and exploring boundaries. In short, breaking ground and mapping movements.

And, therefore, building maps for exploration and action at the same time; understanding the idea of maps not only as a purely descriptive cartography, but as a survey "record-reconnaissance" capable of proposing potential scenarios for addressing new – and uncertain – territories.

Maps that draw on the positive – and propositional – quality of their "compre(hens)(ss)ive" investigation (based on analysis: comprehension, and synthesis: compression – i.e., both precise and purposeful) of a complex reality in transformation.

Operations that are both descriptive and manipulative at the same time, which refer back to the process of exploration, selection, organization, articulation and formulation that is implicit in any design process.¹³

Throughout this work, we will return repeatedly to this notion of the "map" understood not only as "representation", but also as "interpretation" and/or "translation" of an anticipatory (resonating) and projective (transferring) action with respect to reality.

Both approaches let us present the idea of the notational map not only as a synthetic representation of reality but also as a set of beacons indicating possibilities; i.e., as a mental framework for anticipating movements.

This not only relates to the aforementioned capacity for exploring new territories (with an attentive gaze), but also to the ability to propose new definitions for them and new "*interpreta(c)tions*". With the understanding that appearance, the exploration and the pursuit of new research scenarios always implies a mapping

effort as well, associated with the definition of new keys, new vocabularies, and new expressions (for working “with” and “in” a different context).

“Keys” in the sense of (“guidelines”) – rather than strict classifications or taxonomies – meant to recognize a new reality by indicating it through different voices; with the understanding that re-naming things (suggesting new associations, new readings, new messages and signs) allows for creating new mental maps.

Keys, then, as opposed to categories. Mapping as opposed to planimetrics.

Recognizing a triple meaning in the very notion of “map”:

- the map as a *cartography of expression and representation* (as a tool for recording and reading – for analysis and understanding – for the purpose of action).
- the map as an *anticipatory mechanism* (as an outline for (other) possible actions and movements)
- the map, lastly as a *translation key* (for codes and meanings, but also for possible interpretations).¹⁴

Based on these considerations, this work can be understood as a possible “map” of contemporary design and the city and its new advanced dynamics of change: a map – or reconnaissance cartography – that can be used to explore, analyze, describe and design all at the same time.

A map that, rather than delving into partial aspects or particulars of recent production, looks to “tie up loose ends”, compile research, open up the depth of the field to different cross-cutting (related or relatable) areas for further research, with an emphasis on the multiple potential interactions among them.

The aforementioned considerations are directly related to the work that has been done in recent years in particularly significant projects rooted in action and reflection.

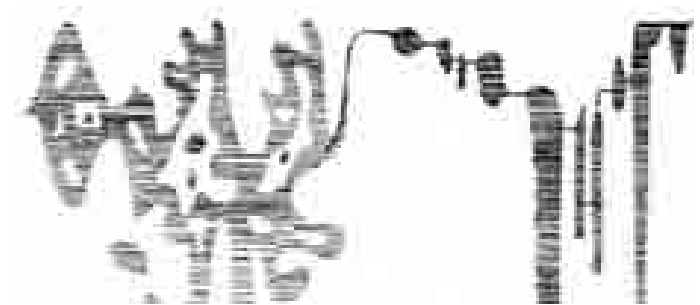
Those proposals have often been based on formulating new “key-terms” (plays on words, neologisms, hybrid voices like hypothetical “beacon-messages” or conceptual “ideograms”)

intended to encourage the possible exploration of limits that are subject to constant redefinition and change.¹⁵

This work is not intended as a “summary” or a “compendium” of that research, but as an attempt at an “overall re-formulation” (in a new conceptual corpus) of many of the reflections and experiences that have been developed – in parallel, simultaneously and coinciding although they were undertaken in separate contexts and areas – combined with others that are meant to provide structure and fill out the theoretical framework that we are attempting to build up.

“Un roman est un miroir que l’on promène dans le chemin,” wrote Stendhal.

However, in contrast to the naturalist, perfectly flat mirror Stendhal imagined, our mirror has multiple facets, made of numerous layers and reliefs. Though the reflection it casts is still recognizable, it tends to bounce back in multiple directions, experiences and processes, in a format and a construction that are not necessarily linear or coherent, though they are especially consistent.



2.5. Musical pattern in a system of references (Iannis Xenakis, 1979)

The exploration of new methods of reconnaissance calls for recording signs and encoding them based on an evolving formal system (see René THOM: “Life scores” in *BAU* no. 14, 1996).

IV. Layers of Reading, Like the Layers of an Onion

The research developed throughout these pages contains two basic, intertwined levels of reading.

The first develops the argument to support the proposed theory; there is a second level, in parallel to the first and interwoven with it, that presents designs and built work intended to illustrate some of the key ideas put forward: including both contemporary proposals and historic re-reading associated with them (understood in all cases as “anticipations”, rather than “models”). Both levels are recognized, in turn, within the different layers of approach that constitute the overall structure of the book.

Like the layers of an onion, the different layers of reading hold numerous differentiated and overlapping aspects of the same general argument, which are encompassing and recurring at the same time. These layers are the foundation for an overall vision that is meant to articulate, from different angles, the possible “advance” in contemporary design, which occurred at the turn of the 21st century, called upon to definitively reformulate the new possibilities for real action in an era of (dif)fusion, information exchange, accessible mobility and a new, more “informal” relationship with the milieu.

1– The first layer refers to the overall definition of the book itself, centered on a common line of argument: the possible analogy with a “battle map”, as a synthetic and purposeful “record” of a complex, dynamic and uncertain event that has a non-linear trajectory.

Given this basic framework – as a central leitmotif – the different sections in the book are associated with a series of access keys related to processes of exploration and reconnaissance, approach and maneuvering, strategy and logistics, also tied in with a virtual “battle” understood as a “belligerent metaphor” for the interpretive

2.6. Benninghoffu.V.: *Sensitive Chaos: The Creation of Flowing Forms in Water and Air*, Theodor SCHWENK, 1962 (in Alesander Sasà Osta: “Vest o pradávní. Zavezi zavesti zemlje,” AB n° 126/127, 1995).

2.7. Cross-section of a red cabbage: an isomorphic recurring multi-layered structure.

and cultural project engaging architecture and the contemporary city, and the dynamic and irregular structures involved.

2– Within that structure, a second “layer” encases the nucleus of this book, intended to present and analyze pioneering designs and research experiments that can help illustrate the change in logic we are discussing and which have somehow resonated – strategically and tactically – during an initial moment of exploration, with the structures of the city themselves and its most generic scenarios and movements.

An approach to, and interpretation of, the city itself – and the potential of architectural design understood as a possible “a-scalar” epitome of the urban makeup – which comes together through a possible taxonomy tied into its essential strategic movements, i.e., the processes of distribution and arrangement in space that are generated based on different combinations and equivalencies of “fullness–emptiness–linkedness” / “building–landscape–infrastructure” / “concentration–dilatation–interconnection”, etc. and the associated mechanisms: “re(growth) and accumulation”, “meshes and circuits” and/or “topographies and reliefs”.

3– A third layer – or level – of reading refers, finally, to the existence of possible “underlying paths” within the itinerary that is generated.

- Spiraling paths, on the one hand, which allude to the encompassing structure of this book, intended to circle, almost obsessively, around certain recurring motifs that are called up to synthesize partial aspects of the argument, referring them to other possible connecting structures and subsequent keys in ongoing encircling chains.
- Or looping paths that promote possible “coiling actions”, between phenomena and structures, but also between “history” and “contemporaneity”, “past” and “present”, considered not as solid, hermetic categories, but as elastic and interconnectable coordinates due to unexpected associations where the past could be interpreted not so much in terms of a prior state, but as

a “present” that has been pulled “backward”.

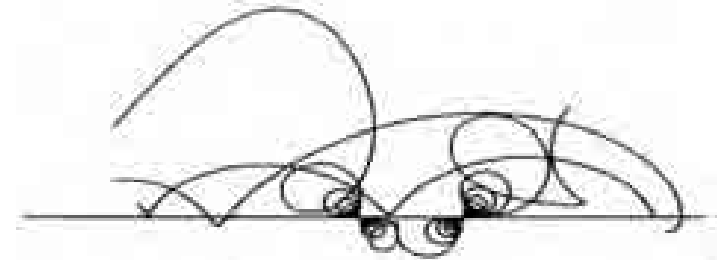
History as a linear – and methodical – progression of events, would then be replaced by a “landscape of events”, of “offers and possibilities”, with changing angles, unexpected twists and unprejudiced interpretations, where the possible harmony between “yesterday” and “today” would not necessarily imply a derivative relationship, but rather a complicity between “then” and “now”, not understood as “anticipation” and “present”, but as “sequences” of searching, in reciprocal resonance.

Loops as “transgressive” movements intended to stir up situations of intrigue and paradox; loops, also, as virtual “coilings” of meanings and movements, translated into images and geometries capable of suggesting new and unheard-of “other” spatialities.

- Or, finally, the paths of leaps or flashes that connect with the sudden nature of certain fleeting moments-movements of intersection and encounters.

Federico Soriano would call them “captures”: figures and images, motifs and analogies, diagrams and ideograms, terms and descriptors – visual and conceptual, narrative and graphic – that make up an entire range of more or less fleeting connections, based on “pointed” leaps.

Relationships between the structural and the episodic.



2.8. Cecil BALMOND. Diagram of an informal spatial trajectory. Variable movements in spirals, loops, flashes and leaps (in *Quaderns* no. 222, 1999).

V. Battle Maps

As indicated earlier, the overall general organization refers to a virtual figure: that of a possible “battle map”, as a “narrative thread” capable of invoking this evolutionary, “dispositional” and operative dimension of contemporary design, yet capable of proposing different levels of approaches that refer to aspects related to:

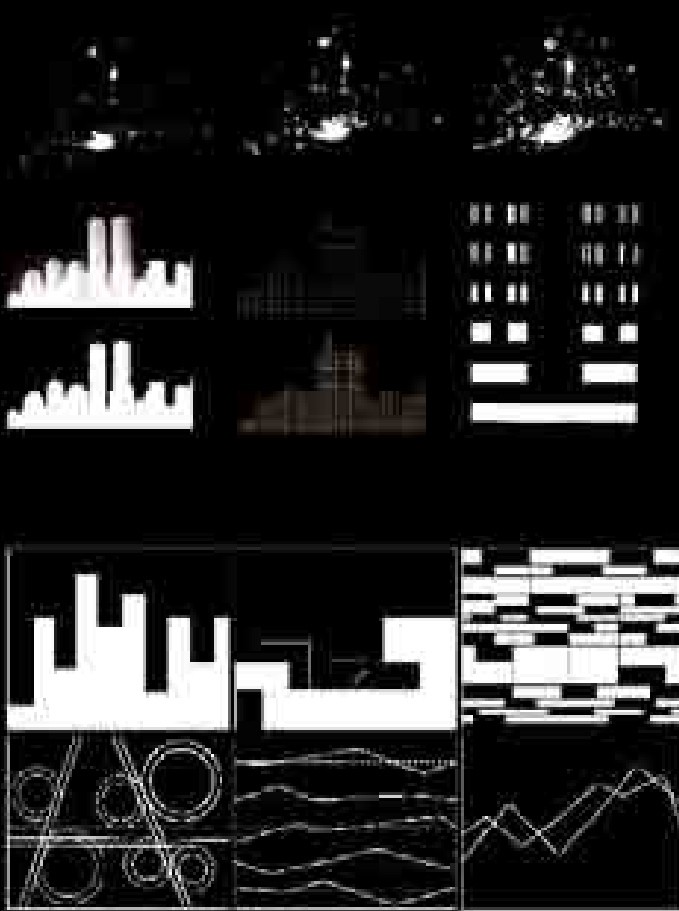
- recognition and cartography (i.e., perspective and representation)
- space and geography (i.e., interpretation of the territory and the city as basic scenarios for exchange)
- order and organization (i.e., the idea of structure and of form... or spatial and geometric formulation.
- system and configuration (i.e., the “dispositional” approach in architectural design)
- the response to local questions from a global perspective (i.e., an interaction with place and context derived from the combination of criteria related to strategy and tactics)

Recognition and representation (cartographies), locating and relating (logistics), maneuvers and approaches (strategies and tactics), order and formation (dispositions), outlines and trajectories, systems and structures (operations and devices) are the voices that articulate the different parts of this book as well as the questions associated with the path (and the course, in the more dynamic navigational sense) of contemporary design and its possible decoding as a complex system of relationships and interactions.¹⁶

1 – Objectives: scenarios and/of exploration

(concerning critical action and new environment conditions)

The first part, “objectives” (in the sense of “goals”, but also “intentions” and “ambitions”) introduces the theory defended in this book and proposes a change in outlook, reading and reconnaissance given the new “environment conditions” (E.C.) associated with these new scenarios.



2.9. Evolution of an urban structure with a horizontal foundation and unfolding vertically. Barcelona 1950, 1965 and 1972 (in *Arch+* no. 121, 1994).

2.10. Manhattan skyline (in Michael BATTY: “On the Growth of the City,” *Architectural Design*, no. 9/10, 1997) and Cantor diagram (in John BRIGGS: *Fractals: The Patterns of Chaos*).

2.11. From left to right and top to bottom: “offshoots”, “twinning”, “gridding”, “knots”, “ground” and “reliefs”: “meta-urban genotypes” and “dispositional diagrams”, synthesis trajectories.

2 - Territories: records and cartographies

(on the city and the territory as “multi-layered” systems)

The second part, “Territories”, (like old “domains” and like new “aggregates” “ensembles” or “expanses”) deals with this multiple, discontinuous and irregular dimension of the contemporary city (as well as the associated changes in recording and cartography) which connects to the contemporary concept of “metapolis” (as a multi-layer territory of relationships) versus the modern “metropolis” (as an apparatus for “expansion” and “production”).

3 - Dispositions: orders, forms and form(ul)ations

(on the ideas of order and form and the topological notions of distribution and arrangement)

The third part, “dispositions” – in the sense of “instructions” (orders, decisions or logics), “distributions” (combinations of positions) and “configurations” (organizations) – addresses a change in logic linked to the concepts of order, form and organization, as well as the topological configurations and dynamic structures (unfolding, dispersions, diffusions, distributions and/o formations) associated with the very “space-time” nature of our environment... and the city itself. Structures that allow us to recognize the recurring parameters (R.P.) common to the irregular geometries derived from those structures, as well as the <in> factors inherent in a more flexible and informal order (because it is informational) and the <ex> factors associated with a more extroverted idea of “form”, precisely because it is more open in its manifestations.

The dynamic nature of the trajectories considered here helps to illustrate the passage from the old (classical) idea of “composition” to the (modern) ideal of “position” and, lastly, to the contemporary concept of open “disposition” (informational) as well as the emergence of new “devices” associate therewith, understood as “generative systems” and as “reactive mechanisms” at the same time.

4– Devices (Dispositifs): trajectories and approaches

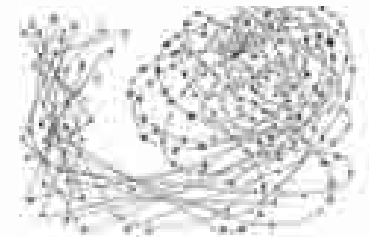
(on the project as a “map” – or the epitome – of the city)

Part four, “devices”, in the sense of “trajectories” and “approaches” (as in “outlines” and “developments”, as in “proposals” and “movements”, as in “maneuvers” and “onslaughts”) proposes a *change in trajectory for conceptual mechanisms and design tools* connected, in an initial pioneering moment of exploration, which is what concerns us here, with testing possible *a-scalar* processes associated with the diagrammatic formulations derived from dynamic systems and, consequently, from the city itself (understood as a possible, recursive “metasystem” higher up).

- Basic devices – or strategic compressions of their movements
- associated with possible synthetic *form(ul)ations* tied in with a basic taxonomy capable of translating the complex, dynamic and informational pursuits of the new architectural design.
- Devices related to movements of “unfolding” or “(re)growth” – “shoots” and “grafts” – as local building accumulators.
- Devices related to movements of “refolding” or “mesh(work)” – “knits” and “knots” – as integrated “circuits” of movement.
- Or devices expresses as “folding” movements or “topographies” – “grounds” and “reliefs” – as “operative landscapes”.

Devices that refer back to the strength of the processes of concentration, connexion and dilatation (*fullness, linkedness* or *emptiness*) associated with them: “mass-paths-gaps”, “occupations–articulations–separations” or, more synthetically, “volumes (points)/lines/surfaces”.

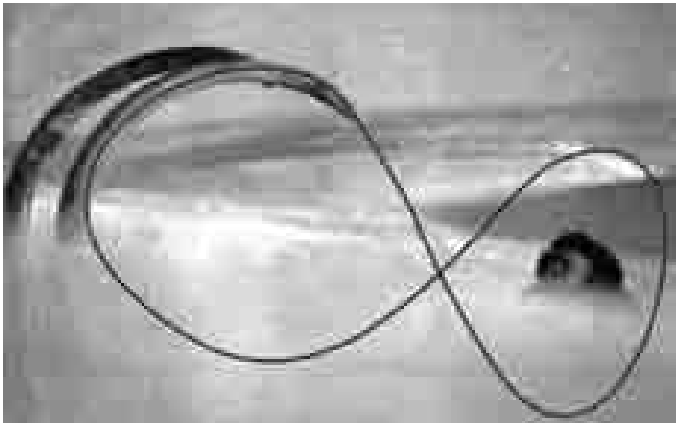
2.12. A graphic representation of musical logothetics with free development lines (in + n°117, 1993).



**5– Strategies and tactics: fields of intrigue (and maneuvers)
(on the relationship with place and the “reactive” condition of an
“architecture-environment”)**

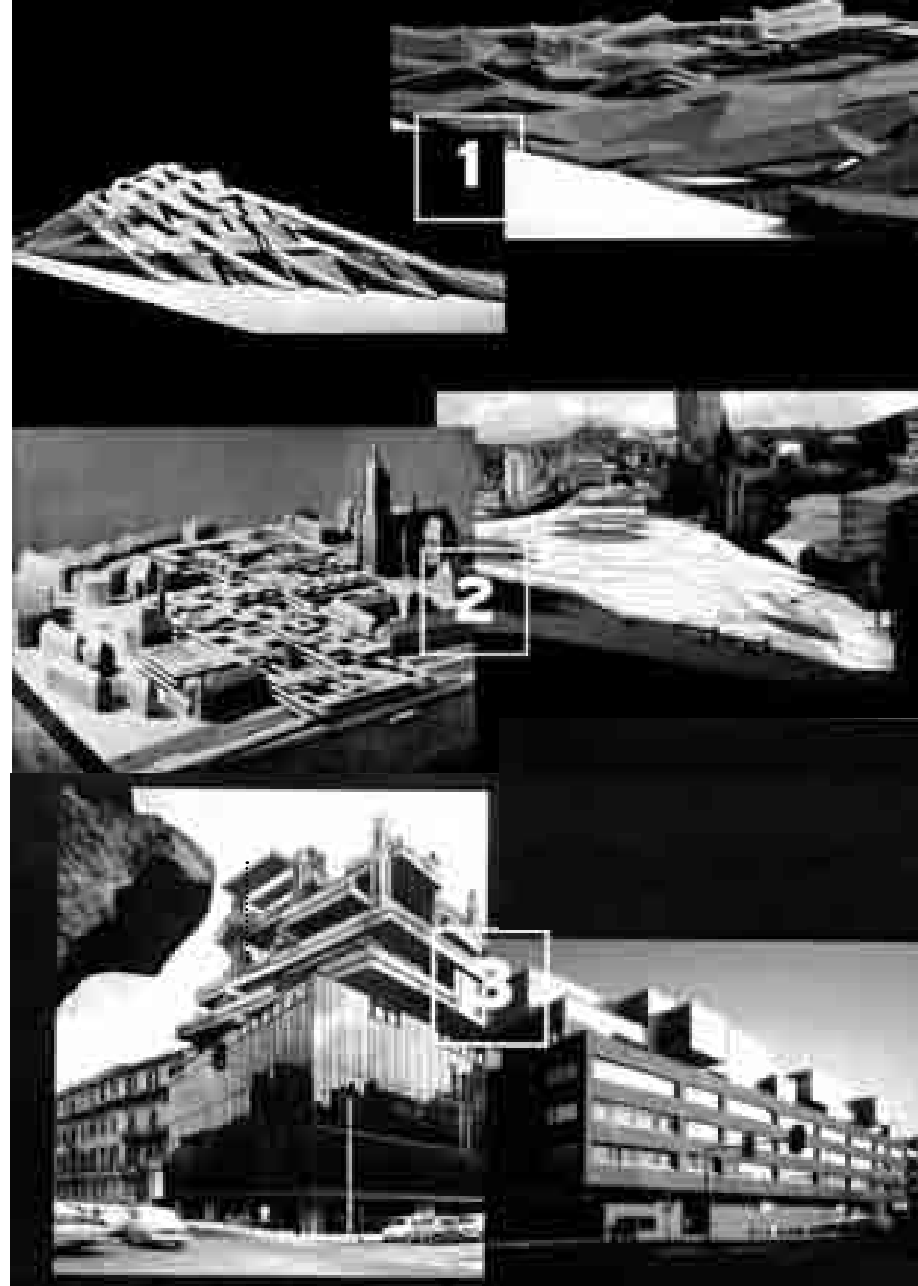
Part five “strategies and tactics” (as in “logics” and “logistics”) delves into the *changes in the relationship with milieu – context and place* – based on the definition of a possible “reactive” and “reactivating” nature in the architecture we are studying and the paradoxical, resonant and transferring, pursuits of the devices we are analyzing.

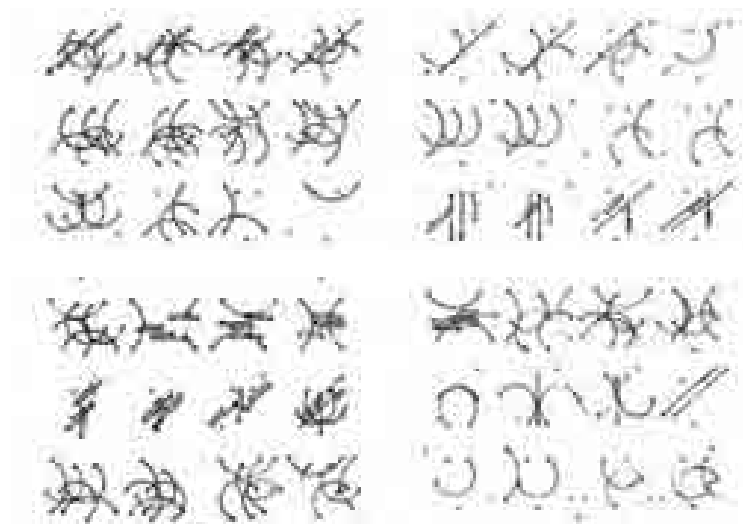
The relationship with place based on the concept of “field” (an inter-scalar “intersection” of forces) and the concept of “paradox”, as a spatial and formal interaction, capable of combining former dichotomous categories into new connecting structures, allows for referring to the characteristics of the devices recognized as such: loops proposed as both “critical” and “positive” actions with respect to reality: decoding and deciphering. In short, essentially re-encoding.



2.13. Temporary Loops, “Now & Before”, “Past & Present”, History & Actuality” as open coordinates.

Re-apparition of an intact mammoth in Siberia (Archive) // “Analogies: the memory folds-in” (in *Quadens* 223, 2000) with some projects presented in these pages.





2.14. Above. Record Maps.
Lucinda CHIDS. Melody
Excerpt, 1977 (BAU 014, 1996).

2.15. Left. A network of links
between relational keys, nodes
and connections: direct and
indirect associations.
(in Douglas R. HOFSTADTER:
*Gödel, Escher, Bach: An Eternal
Golden Braid* ed. Penguin
Books, New York 2000).

2.16. Opposite above
A.LOGOTHETIS: Koordination,
1992, *Textur-Struktur-Spiegel-
Spiel*.

2.17. Opposite below
Text arranged according to a
pre-existing grid, deformed
topologically.
(in the first volume of the journal
Figuras no. 3 1/3 1995).



6– (Logical and logistical) outcomes

(On the open and paradoxical nature of contemporary design)

Part eight, “outcomes” (as in “conclusions” and “resolutions”) – as a kind of epilogue and (re)capitulation, in three parts – expands on some of the subjects introduced earlier, presenting a possible evolution of what could be called a *new operative framework and an authentic cultural shift* called upon to put forth a more unprejudiced and uninhibited attitude with respect to the formulation of the architectural project, the main “potentials” of which are gathered into a set of do’s and don’ts intended as a final *memorandum*.

Whereas in most of the cases under analysis here, we have witnessed a noticeable transformation in what would have been interpreted as an “architectural object” – in the form of ensembles, structures, configurations or formations/formulations characterized by more or less pure and compact geometries – this transformation is not indicative of a disavowal of form, but rather an optimistic (operative and optimizing) pursuit, intended to reconsider architecture’s relationship with the milieu based on a more permeable and unprejudiced action that relies on a rebuilding disciplinary knowledge that is attuned to a possible strategic and resonating interaction between the architectural object in/as an environment: the situations – and information – characteristic of paradigmatic scenarios (from the city to infrastructures or nature itself) that can be processed, combined, coupled together or hybridized (even in an apparently “unnatural” manner) to produce, in a still incipient way, new spatial “specimens”.¹⁷

After years of trusting in architecture as a figurative profession, as a fundamentally compositional discipline (based on trust in the transmission of disciplinary knowledge founded on the idea of design as skilled, meticulous and elegant calligraphy, with all of the associations of an erudite refuge implied by that conception), the digital revolution in the 1990s led – almost suddenly – to the birth of a new conceptual and prospective

concern – linked to a new vocation – more related to procedural (projective) investigations than to mere formal conventions (or reproductions).

A new (re)formulating approach to design – as opposed to formalizing – associated with a certain, more positive and developmental attitude toward reality.

To summarize... a drive for exploration based on confidence in a new kind of emergent architectural thought that attempted to overcome the lyrical invocations of postmodernity and wring out the final throes of modernism, conducting them toward a new operative logic tied in with a period of change and exploration.

Changes, ultimately, in:

- outlook, perception and recognition of reality
- their recording and mapping cartography
- the interpretation of space and the associated ideas of order, form and organization.

But also changes to:

- the cultural and disciplinary framework
- the expressive and narrative response
- the interaction with the context
- the attitude toward environment and the relationships with the material, social and cultural reality/ies.

Changes of paradigms, linked with a new *Open Logic* and a new *Advanced Thinking*, that call to parameters of Complexity (Simultaneity), Dynamicity (Evolutivity), Diversity (Plurality), Transversality (Connectivity), *Mixity* (Multiplicity), Interactivity (Interchange as Interaction) and Reactivity (Responsivity and/or Adaptability) that are defining, in fact, our own time.

Changes characteristic of a period of transition between an industrial (material, objectual, positional) era and a new digital – or informational – more procedural, more relational and cross-cutting era, which we have attempted to describe here, in its most incipient manifestations.

- 1- See GAUSA, Manuel: "Space-Time-Information," in *Quaderns* no. 222, pg. 6.
 2- See GUALLART, Vicente: "House on the limits of the city," *Quaderns* no. 211, pg. 189.
 3- See KUBLER, George: *The Shape of Time: Remarks on the History of Things*. Yale University Press, New Haven 1962.
 4- See von MEISS, Pierre: *Elements of Architecture: From Form to Place*, ed. Routledge 2011 (chapter 1.3).
 5- See GIEDION, Sigfried: *Space, Time and Architecture*, ed. Harvard University Press, Cambridge 1941.
 6- "The idea of relativity, expressed at the beginning of the 20th century in art and the sciences simultaneously, meant that the coherence of things no longer consisted in their subordination to a central dominant principle, but rather in their reciprocal relationships. Reality no longer recognized an absolute frame of reference; all things were relative to one another."
 See STRAUVEN, Francis: "L'orphelinat d'Aldo Van Eyck," *Bulletin* 2, École d'Architecture de Versailles, 1992.
 7- "Both Aristotle and Newton believed in absolute time. That is, they believed that one could unambiguously measure the interval of time between two events, and that this time would be the same whoever measured it, provided they used a good clock. Time was completely separate from and independent of space."
 See HAWKING, Stephen: *A Brief History of Time*, Bantam Dell, New York 1988.
 8- See JARAUTA, Francisco: "Tensiones del arte y la cultura contemporáneos en las sociedades tardocapitalistas" in V.V.A.A: *Otro marco para la creación*, ed. Editorial Complutense, Madrid 1994.
 9- See SOLA-MORALES, Ignasi: *Diferencias: Topografías de la arquitectura contemporánea*, ed. Barcelona 1995.
 10- To paraphrase Pierre von Meiss, "The reader will quickly realize that this is not a treatise, a dictionary, or a book of architectural recipes. [...] Architecture cannot therefore be a science, but it uses sciences."
 See von MEISS, op. cit.
 11- See von MEISS, op. cit.
 12- In their text "Injertos" ("Grafts") Emilio Tuñón and Luis Moreno Mansilla referred to the potential for intersection by indicating the reactivating (cross-cutting) pursuits of a new "critical outlook":
 "Since the second half of this century, when the principles and paradigms of modern architecture were seen to be incapable of responding to the concerns and needs of a world in constant evolution, there has been a search for analogies and references with the potential to reactivate architectural thought. With the possibility of being grafted in, again but with different words, to bring about one objective: architecture [...]."
 See TUÑON, Emilio and MORENO MANSILLA, Luis: "Injertos: cuatro comentarios" in *CIRCO INJERTOS 00*, 1997.
 13- See PORRAS, Fernando: "Notas para un diccionario." Unpublished text.
 14- "Given [this] new multiplicity, current criticism can [only] take on the construction of maps, topographical charts that reveal the complexity of a territory."
 See SOLA-MORALES, Ignasi: op. cit.
 15- See SOLA MORALES, Ignasi: "A Journal You Can Take Anywhere," in *Quaderns* 50 no. 205-206, 1994, pg. 17.
 16- "It is uncommon, to say the least, for someone to be in the position of 'decoding' a formal system...Users of formal systems...have an interpretation in mind for the formal systems which they use and publish. The idea...is to set up a formal system whose theorems reflect some portion of reality isomorphically."
 See HOFSTADTER, Douglas R.: *Gödel, Escher, Bach: An Eternal Golden Braid* ed. Penguin Books, New York 2000, p.58.
 17- See GAUSA, Manuel: "Landscape and Architecture, Fresh Shoots," in *Quaderns*, no. 217, 1997.

CHANGES OF PARADIGMS OPEN LOGIC, INFORMATIONAL LOGIC, INFORMATION + INTERACTION: NEW ADVANCED THINKING FRAMEWORK CONDITIONS

Complexity (Simultaneity)
 Dynamicity (Evolutivity)
 Diversity (Plurality)
 Transversality (Connectivity)
 Mixi(ci)ty (Multiplicity)
 Interactivity (Interchange as Interaction)
 Reactivity (Responsivity and/or Adaptability)

OPEN LOGIC, RELATIONAL ORDER, INFORM(ATION)AL FORM

SHIFTS OF ARCHITECTURAL...

Logic
 Trajectory
 Record
 Gaze
 Perception
 Interpretation
 Expression
 Notions of order, form and organisation

SHIFTS IN...

The cultural framework
 The projectual answer
 The interaction with the environment
 The relation in-beyond the context



Part 2

SCENARIOS

Territory, City, Map

- 3 TERRITORIES: Metropolis > Metapolis, Vibrating Territory
- 4 RECORDS: Multi-Layered Cartographies: Maps and/as Projections

Maniobras de despliegue terrestre 1944. (archivo)



3 TERRITORIES

Metropolis > Metapolis, A Vibrating territory

"In the mid-20th century, those thinking about cities believed that they were clearly organized, simply ordered, and thus predictable, capable of being designed and planned in such a way that the quality of life of their residents could be directly improved by manipulating their physical form. This was a view that was widely held throughout architecture, indeed throughout the social sciences. It was founded on the belief that the social world, and its representation in physical artefacts such as cities was coherent and understandable in the same way that the physical world had been understood since the Enlightenment..."

Conscious and deliberate attempts at social engineering, as in the kind of architecture and urban planning which has dominated Western societies for the last 50 years and now the developing world, was the result. As we approach the millennium, all this seems naive.

The rational scientific program has been split asunder in the last 20 years. Our understanding of systems in the small does not add up in any measure to our understanding in the large...

The whole is more than the sum of the parts and [...] dreams of a final theory are a chimera. Systems everywhere are simply too complex to be reduced to the tenets of conventional science."

Michael BATTY: "The Fractal City," in *Architectural Design* no. 9/10 vol. 67, 1999.

I. Geourban Mutations

The past 30 years have brought about a radical transformation in the development – and understanding – of cities and territories.

The rapid advances in conditions of mobility and exchange have demonstrated, more and more explicitly, the dynamic nature of urban systems and their new "geo-urban" dimension. Complexity, diversity, discontinuity, irregularity and – in any case – global and local interaction among phenomena, processes, structures and configurations, are some of the new parameters for definition in use during the first decade of this century, demonstrating the ineffectiveness of most urban planning models based on delineation, carried over directly from past situations: models that are more linear and

3.1. Manolo LAGUILLO, photography: Barcelona-Vallès, 1990. (*Quaderns* n° 187, 1990).

"Built archipelagos", "interstitial open spaces" and "arterial supports": sequences in the territory.



apparently stable because they are excessively deterministic. "The city" is doubtless one of the subjects that inspired the most debate during the second half of the 20th century, which has only confirmed the scope of the transformations that have occurred over the course of just a few decades, during which the urban process has undergone a spectacular, as well as unexpected, *scalar leap* – both conceptually and in its dimensions – as a result of its own rapid entropic mutation. This mutation illustrates the progressive emergences of a process of multiple exchanges, among forces and energies, occurring under conditions that are ever more complex, vague and fundamentally dynamic.

The ultimate goal of many of the new analyses, essays and approaches that have recently been dedicated to exploring this new fragmented, heterogeneous and apparently unstructured – mutating – reality of new urban developments, is not only to record its plural manifestations (increasingly multi-faceted and diverse organisms that are potentially more rich and – also – more threatening) or to describe the apparent chaos and intense growth of its multiple manifestations from a simple angle of fascination. Instead, they attempt to come to terms with and make use of the structural and infrastructural processes that have defined these developments (which are often disquieting, because they are irregular) and dissipated them.

This confusion when faced with scenarios that we no longer clearly understand, constitutes a fairly recent phenomenon: until not so long ago (for most of the final third of the last century), the city – the very concept of "city" – was identified, in the prevailing vision, as a virtual "object" – an enclosure, an enclave – separate, recognizable, precise; a "space" with an unquestionable "identity" or, at least, an identity that was defined enough that, given the models present in the disciplinary sphere,

The city, a single body that can be taken in as a whole: an enclosure sealed off against the expanses outside its walls

3.2. Edo city map, 1870: The consecutive neighborhoods create a spiral around the Imperial Palace where hierarchized areas can be identified (in *Arch + n° 123*, 1995).

3.3. Frankfurt am Main: Successive expansions of the historic city and the connected enlargements (In Aldo ROSSI: *The Architecture of the City*, ed. The MIT Press, Boston 1984).

it was invariably associated with the notions of “form” and “place”, as secular meanings: the same ones that Aldo Rossi underscored in his well-known and influential work *The Architecture of the City*:¹

“Our description of the city will be concerned primarily with its form... Moreover, a description of form takes into account all of the empirical facts we have already alluded to and can be quantified through rigorous observation. This is in part what we mean by urban morphology: a description of the forms of an urban artifact.”

A causal, rather than random, form; genuine, original; essential and specific, closely linked to the ideas of “context” and “permanence” and which ultimately appeared as the ideal materialization of a whole series of “inherited” experiences, derived from the morphological and typological traditions – and procedural customs – characteristic of a particular culture, area: in short, a milieu.

A form generated – like the traditional logic it upheld – from the standpoint of continuity: a continuity in building, but also a grammatical continuity.

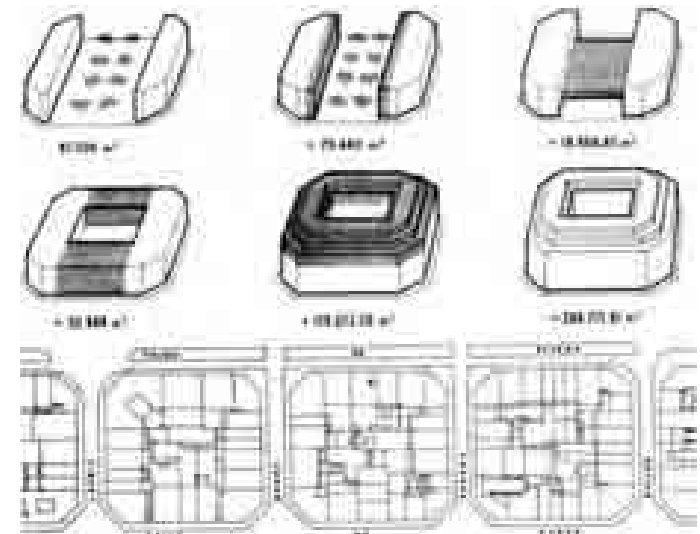
The city – or at least a certain *ideal* of the city – had to be the result of a coherent evolution of that “genuine morphology”, occurring in a specific location, promoting a reading based on the detailed analysis of pre-existing conditions, a meticulous description of a *prior reality* from which to deduce parameters, guidelines, types: in short, compositional elements derived from repetition, custom and habit. As such, we could describe a certain “typo-morphological” logic that (re)routed the modern functional “object-type” toward the formal “icon-type”, more similar to the classical conception of form.

Whereas this mysticism of a sanctified “city architecture” constituted the favorite refuge for the revisionist dogmas that were in such fashion at the end of the 20th century – put forward as a reaction to the anathemized semantic and spatial rupture represented by modernity – it also ensured the success of a vision that took recovering memory as its motto (*taking lessons*

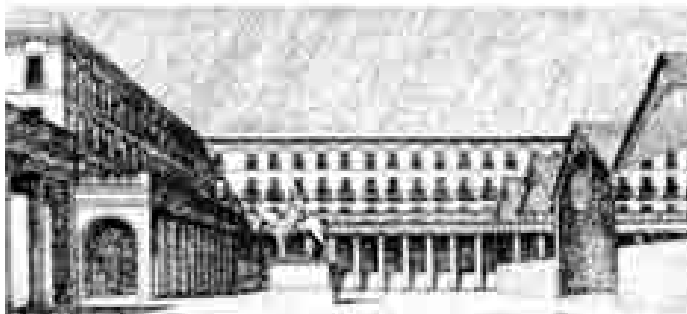
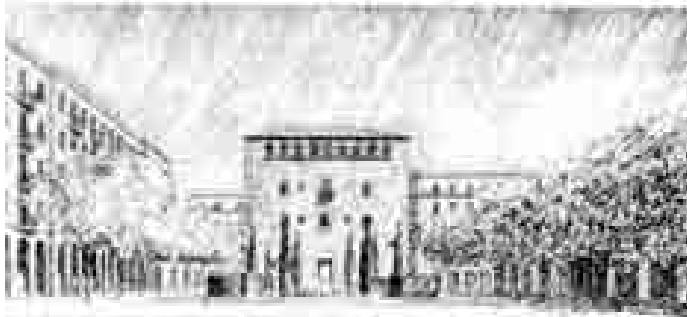
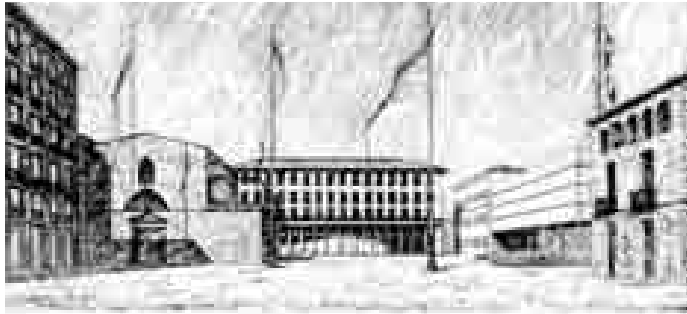
from history): attention to context as a basic argument, the control of form as a process and the value of the “center” as an essential reference point.

This concentration on questions of typology, morphology, delineation and focusing on what is repeated and repetitive (understood as a collective expression) only demonstrated a faith in the apparent recovery of a longed-for harmony that was generally approached from the standpoint of strict compositional control.

This was the instrumental foundation for urban planning that was laid out – composed – based on the certainty of proven codes: autobiographical “notes and annotations” alluding to the meticulous definition of form and the rhetorical use of detail, in which the figurative – i.e., formal – character of planning took on particular importance.



3.4 A reading of Cerda's Eixample as a typological mechanism.
(In Aldo ROSSI: *The Architecture of the City*, ed. The MIT Press, Boston 1984).



II. <Res> Planning

Indeed, in the common ideology of a large portion of revisionist, official – and, if you will, “postmodern” – urban planning at the end of the seventies and most of the eighties/nineties, the longing for a “reconstructed urban space” was the shared objective for quite some time.

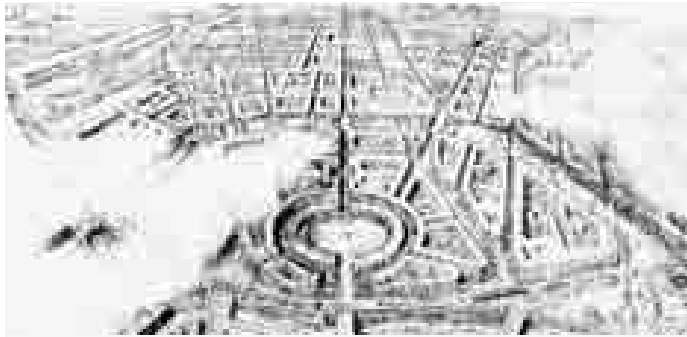
This tendency was sanctified by a certain disciplinary culture that was still actively belligerent and which based its main source of inspiration on the urban models upheld by tradition.² Those models were primarily built up around the idea of continuity and its immediate derivative, the idea of “repetition” (typological, constructive, grammatical repetition, the repetition of outlines, images, uses) inherited from an “ideal” period characterized by slow and gradual movement, which harkened back to three old myths:

- faith in “delineation” as a tool for ordering (the street as the main event);³
- maintaining a certain “apparent” coherence between type and construction (technique as a procedural tradition); and
- an interest in “typological” aspects as the translation of a certain “common archetype” with the potential to “give back” pieces of continuity – civic type-episodes –to the city, a continuity that was still longed for and recreated in certain places.

It was a comforting discourse that placed value on the most sentimental, emotional, and evocative aspects of form, using figurations supported by the appealing logics of a sophisticated, timeless and gently evocative eclecticism.⁴

During a large part of the past two decades, this was the main concern of an “introspective” and “retrospective” kind of urban planning, which we have called “<res> planning”.⁵

3.5. The “rebuilding the city” paradigm as the evocation of an ideal “place” to be recreated. In its form, in its layout and in its iconographic expression.
Montse RIBAS: Design illustrations *Del Liceu al Seminari*, ed. Clotet-Tusquets, Barcelona 1981.



Urban planning derived from a “*troclassic*” *covery* in the discipline: *demption*, *construction*, *storation*, *habilitation*, *covery*, etc. were nominalizations of a line of action based on *repetition*, i.e., a “*versal*” – or a version – of processes. In the *-establishment* of an urban space with traditional silhouettes whose priority definition is entrusted principally to the old myth founded on the certainty of an ordering line as an essential instrument of composition and/or *pair* (i.e., the nostalgic evocation of an ordering planning activity approached with a clear figurative intention, as an action that tends mainly toward the *construction* of the urban fabric or, in the case of new developments in the outskirts, toward its *creation*).⁶

These models are derived from a revisionist, old-fashioned idea of the urban condition where a picturesque and reminiscent historic center coexists with a ring of small-scale arcadias that surround it: caricatures of a garden city or neo-enlargements that pay direct tribute to a certain pseudo-cultured and/or pseudo-vernacular imagery, still confiding in the effectiveness of the apparently essential parameters of architectural discourse (geometric outlines, axial arrangements, symmetric compositions, “solid” constructions).

Based on this idea, the city appeared – and was perceived – as (and through) an apparently coherent sum of compound figurations, parts, complete closed-off pieces.⁷ Elements that can be combined via addition/juxtaposition and that are “informally” laid out based on the “parcelled up” division/ composition of the whole and its translation through an ambiguous “hypomonumental” lexicon.

<Res> urbanism: the restoration of the historic city based on the “enlargement” as a mechanism of repetition and re-figuration. Continuity, homogeneity and regularity (not exempt from a certain neo-monumental lyricism) are founded on a compositional idea of phenomenologically isotropic formal urban control

3.6. Rob KRIER. Urban ideal, 1977 (in Vittorio MAGNAGO LAMPUGNANI: *Architecture of the 20th Century in Drawings: Utopia and Reality*, ed Rizzoli, New York 1982).

3.7. The CERDA Eixample, a bucolic-continuit vision // 3.8. Area for expansion Madrid-Sur.

This eminently physical and formal definition of the traditional city was complemented by the definition of a territory understood as a large-scale “extramural” space that is formalized, broken up and transformed by a shared memory, in accordance with largely physical conditions – orography, topography, building traditions, etc. – which are characteristic of a specific location.

It is not strange, then, that in this vision, the quality of the interventions tended to be based on a kind of metaphysical “communion” with the ancestral identity of the place.

A place idealized through morphological essences – or constants.⁸

Likewise, the search for a (pseudo-rural) “primitive harmony” and a (timeless) formal coherence made (neo-traditional) spatial composition its insignia.⁹

Disciplinary routine (as a result of habit, inertia or imposition) continued to foster approaches inclined toward the use of tools related to those neo-traditional models: mechanisms handed down from generation to generation that today have come into contact with a reality that no longer operates according to the slow and gradual movements – the desire for a timeless continuity – they responded to; this new reality is manifested in valences, ruptures and dynamic fluctuations that enter into constant contradicting with the myth of permanence that yearned to constrain everything through a rigid and precise determination of form.¹⁰

The old time-tested codes, still confident in the “guarantee” provided by traditional patterns and the apparent stability and permanence of historical outlines, now evidence significant deficiencies when it comes to confronting a more complex, rapid and incoherent reality, made up of jolts, changes and uncertainties bent on contradicting, over and over, any anecdotic dream of order and harmony.

In the current scenario of heterogeneous and disjointed conditions, unpredictable and changeable actions, vague and unfocused profiles, diverse and segmented images, arrhythmic

and syncopated sequences, mixtures and hybridizations, overlapping and bastardizations – in this “paradoxical and artificial” scenario, in short – an action based solely on the *-establishment* (i.e., the “stabilized” establishment of a *reminiscent* aesthetic and formal model) would be hard pressed to live up to the demands of these conditions effectively. While the *visionist* discourse was wielded as a protective reading faced with the mechanical and progressivist forces of production, it also ended up being translated into a desire for procedural control and formal stabilization: a skeptical mistrust of innovation, but also a semantic confidence in the uniformizing rules of an essentially compact and cohesive universe that it is ideally harmonious and discursive.

A desire, then, for *figuration* as opposed to *formulation*.



3.9. *Die vom City und Verkehrslärm Lage im Grünen*. Cartoon by Oswin. (in REICHOW, Hans Bernard: *Die Autogerechte Stadt*, ed. Otto Meier Verlag, Ravensburg, 1959).



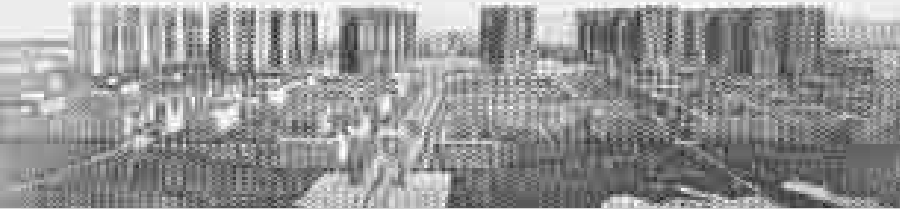
Bucolicism, tensions and contradictions in the historical revision of the city. Between the recreation of a timeless Berlin filled with classical orders and pediments – where the disturbing presence of an overly contemporary communications tower is “softened” – and the image of the industrial colonnade of a silo on the outskirts of Milan, emerges the dichotomy between the monumentalization of two figurative landscapes – center and outskirts – that left its mark on a large part of the debate in the 1980s

3.10. Mario Bellini: Design for the restructuring of central Berlin- Schlossplatz, 1990.

3.11. Gabriele BASILICO: Panicale, 1987 (in *Trasimeno, percorsi & visioni*, ed. Amilcare Pizzi, 1987).

3.12 and 3.13. Manolo LAGUILLO: Diagonal Sur (in *H/C*, ed. COAC, Barcelona 1989).

3.14. Gabriele Basilico: Balay, 1990 (in *Quaderns* no. 186, 1990).



III. Another Form, Another Place: The Outskirts as Myth

Given the various neo-monumentalizing expressions – bombastically “postmodern” or softly “eclectic” – of this defensive rear-guard, which took up the evocation of an ideally harmonic historic center as its main reference point, the critical reaction fostered by certain theoretical stances involved embracing the rigorous foundations of a more abstract universe, no longer related to historic icons but to the manifestations of a civilization emerging directly from modern – technical and material – objective production, which was accepted in all its dry, hard radicality: a “dirty realism”, reexamined without aesthetic prejudices or semantic determinants.¹¹

It is within this framework that we should interpret the interest shown in the research that went on in the mid-80s, directed at this “new” expressive landscape of the periphery (the “suburbs”, the “outskirts”, the “broken” city, its more or less cracked outer “crust”).¹²

The “perimeter” landscape as an alternative scenario: a myth and a cliché at the same time.

Faced with the decadent harmony of a recreated history, faced with the impossible sentimentalism of the traditional city, the outskirts became a “new place” – an alternative one that gave preference to the perversion of the notion of context over an (individualist, centralist, erudite, deductive) “contextualist naturalism”: a “perverse context” present in an abstract and nearly interchangeable way in most large cities, and which revealed a new epic scale, as opposed to the antique lyric dimension.¹³

What that implied, obviously, was a translation of interests that allowed for the formulation – in contrast to the historic city – of a more open and unheard-of landscape: “a *landscape without pre-established conditions*.”¹⁴

The modern city and the postmodern outskirts. Epic vision and critical distance

3.15. LE CORBUSIER: Ville pour trois millions d'habitants, 1922. Plan, aerial view and partial view.

3.16. John DAVIES: Llobregat-Bellvitge, Barcelona, 1990 (in *Quaderns* no. 186, 1990).

3.17. Itaquera Neighborhood, Sao Paulo, Brazil, 1985 (in *Quaderns* no. 196, 1993).

The attention directed toward the outskirts appeared, during a large part of the 1990s, as the “impossible” dream of a “possible” – in that it was “interrupted” – lost modernity: the poetic landscape of a failed city, because it was defectively “sublimated”, although it was still potentially exploitable and allowed for contrasting the evocative model of the historical city with the austerity of the abstract intensity of the modern city.¹⁵ Schematic urban planning, its productive mechanisms and – generally speaking – the poor quality of construction were, in most cases, the main characteristics of the “modern city” in post-war Europe, making its architectural translation into a symbol of fragmented, displaced, imposed growths that were as epic as they were autistic, both “self-sufficient” and oblivious to their surroundings.

Indeed, whereas the historic city – the traditional urban fabric – illustrated the paradigm of evident continuity – the “center” as a core reference point – it also implied the evocation of an urban quality that was reproduced, controlled, familiar (“essential” because it was “genuine”) as the translation of a singular and absolute (classic or “retroclassic”) space: a space that was essentially homogenizing (harmonious, continuous, compact), but above all predictable – prefigurative – through form as outline – as an “outline-type” i.e., through an essentially “compositional” figuration.

The modern – fragmented – city on the other hand, implied a compelling break with this evocative and ritual space in the face of a new functional logic, and a greater mechanical rationality in production.

A materialist space, rather than a symbolic one; autonomous, discontinuous and variable although still exact – or at least precise – in its manifestations.

A typological space, then, that had substituted the “outline-type” with the “object-type” as a productive mechanism, and also the strict correlation with the fabric – through continuity – with the precise correlation of functional objects: abstract volumes in relative positions.¹⁶

A space that was essentially abstract: “evocatively abstract”. More strict than ceremonious, more severe than solemn, more purist than pure.

The subtle borderline between the outskirts in the 1980s as a “cultured landscape” – potentially expectant, semantically “alternative” – and the suburbs of the 1960s as a political scenario for social indictment – flawed, conflictive, belligerent, socially “resistant” – outlined an ambiguous scenario of limits, tensions and re-proposals.

In this sense, if the dichotomy between a “center frozen in history” and an “expectant periphery” constituted a revitalizing leitmotif for turn-of-the-century urban planning, for a time, it also ended up limiting the debate to a sort of aesthetic confrontation between two figurative landscapes (the lyrical and morphological continuity of the historic city and the (in) tense and objectual freedom of modern growth), reducing the perception of – and the approach to – space to a problem of forms: old or new forms corresponding to scenarios – interior fabrics or perimeter limits – located, in any case, within the familiar framework of what was traditionally understood as the “city”.

A recognizable and virtually coherent enclosure.

Unambiguous.

But whose former geometries had already begun to fray.

**IV. Dispersions: Discohesions, Disconnections,
Disloca(lisa)tions:
Into “Urban-Territorial” Space**

The generalized rise in the parameters of transformation associated with mobility and the impact of information and communication technologies on territorial occupation, the appearance of new “networked territorialities”, the change in focus of the city on its outskirts, the demographic and real-estate explosions (without a necessary connection between them), the resulting suburban, residential, productive or leisure booms, the emergence of overgrown “world-cities” and specialized ghettos (occurring on all social levels) and, to sum it up, the irregularities inherent in the system and the appearance of “geo-urban” forms that surpassed the old territorial hierarchies led to mutations on a global and local level that had only been anticipated – not addressed or expected – by urban sciences that were enclosed in the linear imposition/composition of closed-off traditional models.

In parallel, the limited qualitative added value of master plans and partial plans that were meticulously detailed and managed, but with hardly any capacity for evolution (and relationships), as well as the contingent development of transportation and communication systems based solely on circumstantial connections (which as a result, were insufficiently integrated into – and joined with – an authentic strategic organization of the city-territory that had been generated “beyond the limits”) not only seemed not to have been anticipated, but seemed incapable of responding to the demands of dynamic processes, which were constantly coming up against a discipline – and a figuration – accustomed to the old rules of a static situation.¹⁷

The increase in mobility and the ability to access exterior focal points for establishment and services contributed to unraveling traditional urban enclosures, shifting them toward a new (infra)structural scale and their development into more or less specialized archipelagos

3.18. Area for expansion BCN-Vallès-Cerdanyola, 1990.

3.19. Area for expansion Madrid-Sur, 1991.



At the end of the last century, it was plain to see that the geographical limits of what had traditionally been understood as the city had given way, quite suddenly, to the new scales of a new “urban-territorial” space in constant vibration and reconfiguration, where even what had once been understood as the outskirts could no longer be understood as a “location” (a precise place or landscape: the limits of the city, its borders), but rather as a “condition” at the heart of a process (the dissolution of urban areas into the territory), in which both consolidated and scattered – often contradictory – realities tended to coexist, and which alluded to this new entropic and ultimately unfinished definition of a new “geo-urbanity”. The old, more or less defined, limits (and historic enclosures) of the closed-off city – with its “flanks” and “rear-guard” – had succumbed to the multiple scales of a new kind of “strategic-territorial” agency, in the same way that the old genuinely compositional factors had given way when faced with the evidence of an increasingly, multi-faceted, slippery and dynamic reality.

Vague areas with semi-residential configurations, extensive spaces linked to consumption and leisure, scattered tertiary establishments or dislocated suburban fabrics constituted the spaces where the new city was developing: a city that was built not so much based on the evocative and figurative ambitions of the elements that filled it up, but rather from the severity and neutrality of the large-scale systems that structured it, based on the variation and the a-critical accumulation of those independent large-scale operations – and not necessarily precise in terms of their relationships – that drove the city’s development: large pluri-functional containers, metropolitan parking lots, theme parks, large-scale shopping malls or mixed-used centers conformed tradition-less, bastardized projects (which would nonetheless house most of the new “collective spaces”) and which demanded new spatial strategies beyond the ones offered by the old formally “disciplined” models for urban development.¹⁸

These dynamics alluded to the disappearance of “history” as an argument, but also to the implementation of technique as an aseptic tool for mediating the progressive accumulation of the formally uncontrollable, apparently random and functionally imprecise, processes that defined this new kind of organism, infrastructural and contingent at the same time.¹⁹



The expansion of Ceigny-Pontoise (1995) illustrates many of the deficits and the contradictions of planning based exclusively on isolated “parceling”, lacking in any scalar resonance: programmatic zoning on the level of master plans and compositional regulations in partial plans

3.20. Ceigny-Pontoise: Urban deficit factors.

1. Parceling of the territory based on management circumstances, with a spattered structure oriented solely by convenience.
2. The understanding of these interventions as small-scale independent arcadia (in terms of form and compositional harmony) leads to a more chaotic and disordered overall structure.
3. A combination of functional modern machinery – serialization, repetition, objectual autonomy – and classical symbolic imagery – outlines, evocation, language – proposes a new model for production/colonization that is technologically effective and structurally (and iconographically) anachronistic.



The development of a new motorized society had critical repercussions on the expansive structure of cities, which began developing beyond certain perimeters that had suddenly been shattered

3.21: Manolo LAGUILLO: Barcelona-Vallès, 1990 (in *Quaderns* n° 187, 1990).

V. Infrastructures as “Arteries” (and “Articulations”)

In the mid-80s and early 90s, communication and transportation infrastructures (highways, railroads, air traffic corridors) were initially defined as the most obvious indications of a new and increasingly complex territorial system intended to reformulate the old continuous forms of occupation, interconnecting urban structures more efficiently with one another and with the substructures – and inter-structures – that were associated with them and derived from them.

Systems and subsystems, structures and substructures, with forms and capabilities that corresponded to different levels of coupling and linkage, translating the rapid process of scalar exchange that had taken place over just a few decades.

A scalar leap encouraged by the generalized growth in the parameters of exchange and de-localization associated with mobility and distance communication,²⁰ which were critical in addressing the dispersion experienced by the former territorial settlements and the resulting increase in new “networked territorialities”.²¹

New meshed organizations and networks – emerging in scattered webs and multiple and discontinuous, successive and simultaneous sections (systems and subsystems) characteristic of a new dispersed geography, made up of fragments that were connected, interwoven and displaced at the same time.²²

For 1,000 years, the form of historic cities had been based on the need for compact defense, ease of access and localized exchange (fostering the old forms of settlement – cohesive and clearly defined – that characterized the image of the city for years). With the loss of defensive obligations and the development of faster and faster modes of transportation (and increasingly efficient communication systems), the old “urban wall” – the enclosed city – became rapidly obsolete.²³

VI. Ruburbia: From the Container City to the Container Territory

Each evolution of the city toward greater freedom of exchange and movement implied the progressive dissolution of the old, compact “containing enclosure for security, proximity and relationship” (required by circumstances of defense, access and communication, which were restrictive for decades) and the resulting “distributive relaxation”.

While the central mission of cities, understood as the concentration of activities and infrastructures, was to promote (and augment) processes of exchange and transfer, transformation and accumulation of information (as well as energy and capital) through fast and effective operations – associated, precisely, with the urban system itself, which would provide a maximum number of relationships in a minimum amount of time – this notion of “functional speed” is what the motor of mobility brought into play by proposing a new, scattered and discontinuous, relational optimization among the elements in the system; combining different kinds of capabilities in a more flexible and irregular way.²⁴

As such, the city expanded increasingly, both physically and virtually at the same time, developing a more open structure, multiplied throughout a new, more complex and diversified landscape. The old need for an agglomeration to facilitate production, exchange, defense and communication was (de) localized within a larger “territory-matrix” spattered with more or less focalized and/or residual areas.²⁵

In any case, this phenomenon was not limited to the growth of large metropolises; the process was present in most city centers spread throughout the territory: centers that tended to lose their former original coherence to become organisms that were progressively more open to the gradual dynamics of fusion, tension and crossbreeding.

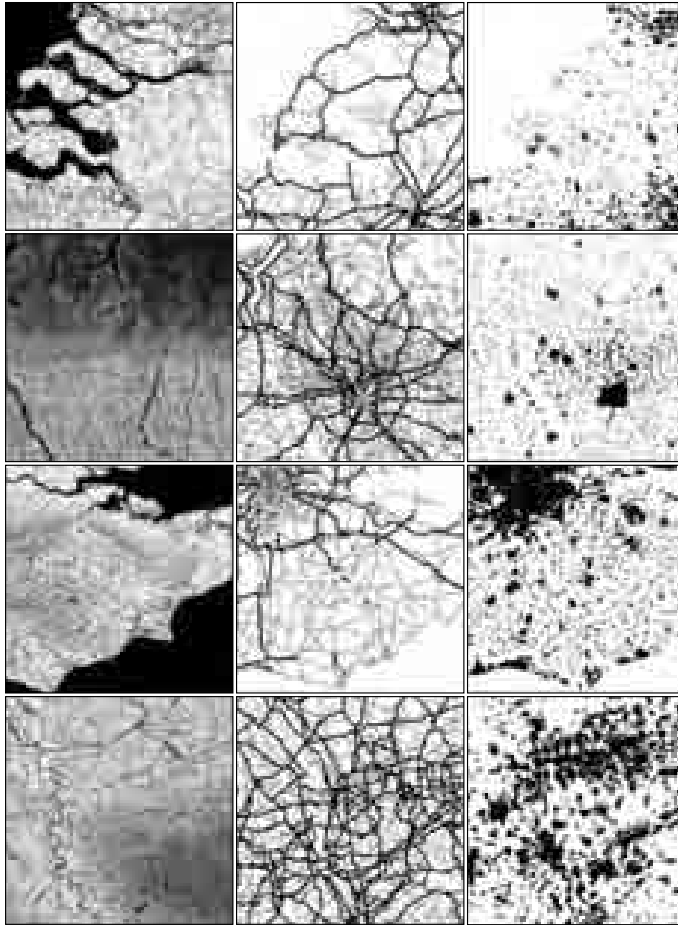
Formerly rural or “neorural” areas became part of the spatial compound that housed the daily activities of the new “city-system”, where traditional transportation networks – roads,

railroads, planes, etc. – were joined by networks for telematic communication, multiplying the relationships within and between areas, from the metropolis outward and vice versa. This process, called *ruburbia* (*rurbanization*) by some, generated a territory that did not belong to the categories of “city”, but to those of a possible – potentially “networked” – “geourbanity” that can be coordinated, but is often as scattered and dispersed as it is insufficiently linked together.²⁶

Indeed, these dynamics were no longer tied into the old autobiographical construction of place (through *genius loci* or a slow adaptation to the context); as opposed to the traditional implantation criteria: proximity and agglomeration of raw materials, ease of access, symbolic or cultural importance of the location, etc., they had to do with strategic interests and independent deciding factors (criteria associated with opportunity, profitability and/or expansion) made possible by the current technological speed and efficiency of planning, colonization and construction processes, as well as an ever-increasing accessibility to – and from – means of communication and transportation.

Modified structures and old existing connections coexisted with new areas colonized by real-estate that was linked to production, the tertiary sector, tourism, or residential space, combined with new attractors located in strategic enclaves (large-scale interchanges or metropolitan mixed-use containers) associated with the new rituals of movement, leisure and consumption. This created blotches and nodes, clumps and splatters – *metastases* of a growing and expanding metropolis, characterized by new relationships of movement and connectivity.

A multi-spiral of mutations was defined in and among them that, in turn, generated unexpected situations that distorted the expected movement, leading in many cases to spontaneous (and even marginal) processes of auto-organization and self-regulation.



3.22. Processes of interconnection among infrastructural networks and urban spattering in different European regions: the Rijn-Schelde delta, the Milan region, Kent and the Ruhr valley. According to MUST S/A Lab (*in De Verkenning Van de Hoeksche Waard*).

Spontaneous outcroppings or clandestine settlements constituted structures on the margin of any planned order, but also on the fringes of any prior framework of infrastructural support: unstructured spaces, displaying no apparent coherence with the laws of the system, built as a consequence of the demographic boom and the residential deficits that were affecting a fifth of the world's population.²⁷

In the same way, another kind of scenario exerted its influence on this new mutating territory, in the form of intrusive spaces: abandoned lots left behind after the – more or less sudden – dismantling of old production and transportation structures, or semi-natural wedges that broke up the coherence and continuity of the extensions, interrupting the sequence of their development through alteration and deformation: topographical accidents, interstitial remnants, land marking edges or gaps, exterior and/or interior – the limits between built areas and, an already artificial, nature – that led to abrupt “*default spaces*” between “*spaces of growth*”.

“Sites and intersites” – “places and interstitial spaces”, which can be found in most large-scale metropolises undergoing transformation.

Locations for uncertainty: *terrains vagues* (as Ignasi de Solà Morales called them²⁸) but also *terrains de friche*, or *terrains de marge*, *terrains d'accumulation*: the spaces of possibility, and of expectations too.

In contrast to the nostalgia of the localized city, emerged the resounding – and often conflictive – vitality of a complex, unfinished organism: a cross-bred and dynamic territory, varied and diffuse, made up of experiences that are fragmented, arhythmically intertwined, intended to promote situations of blending, overlapping and coexisting. This unfinished organism is far from the – apparently inalterable – “harmonic cohesion” of the “model-city” or the “abstract coherence” of the “counter-model city” we mentioned earlier.



Territorial plankton. Two visions of the new urban structures

3.23. Steven HOLL: "Edge of a City," in *Pamphlet Architecture* no. 13.

3.24. Nils Ole LUND; Dreaming of your own home, collage, 1975.

3.25. MAX architects: Urban Patchwork (in *Reference OMA*, ed. NAI Publishers, Rotterdam 1995).

VII. Patchwork City: Scrap Culture. Sites and Intersites

The traditional forms of the historic city and the modern city ended up dissolving into a new, definitively open and heterogeneous, “multi-urban” landscape; a process on a worldwide scale, where the city left behind its status as an “enclave” – a limited enclosure or a landscape, an alternative scenario – and began to manifest itself as a combinatory system that is both rich and fragmented at the same time:²⁹

Like a patchwork across the territory, the crystalline form of the primitive city, exploded into a heterogeneous variety of spatters and empty spaces; a patchwork of intertwined realities, of conflicts (tensions) and “beauties” (attractions) promoted by the very potential of mobility, exchange and movement.

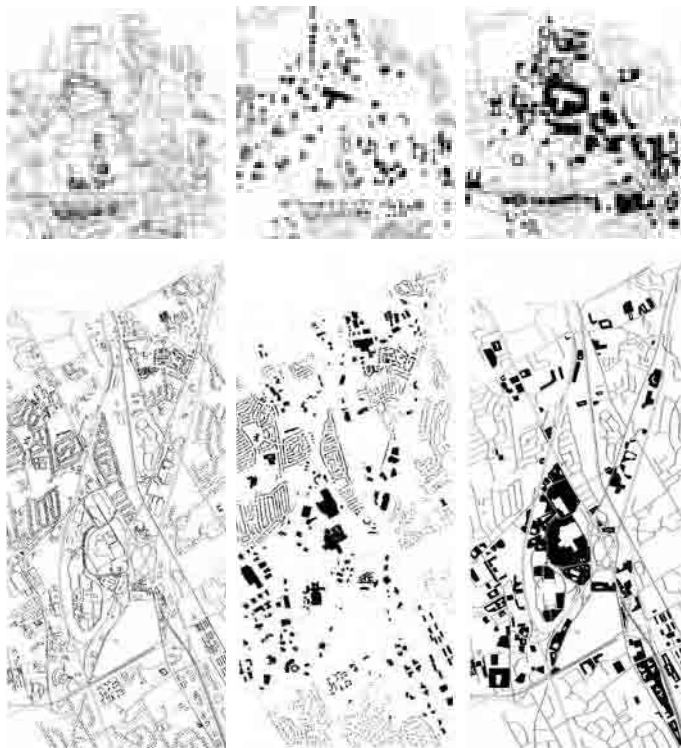
A patchwork³⁰ – or, better yet, a plankton³¹ – transformed into a series of fragments and individual swatches without any apparent cohesion or referential figuration, and whose principle of continuity was no longer based on the forms of the buildings that constituted them, but on the capabilities of the networks that linked them together and the interconnectability of the interstitial spaces that surrounded them. Indeed, while the traditional city had been perpetuated as a result of the materialization of a “full” built fabric, where the formal evolution of a specific culture could be expressed, the new temporal, procedural and infrastructural dimension of the contemporary city-system proclaimed the end of any desire for physical, stylistic or technical continuity and the appearance of a new kind of organization based on the combination of discontinuous sequences of concentration, expansion and articulation, connected by meshes of relationships called upon to weave the territory together and provide the guidelines for the emergence of varied – natural and artificial – developments whose coordinated action necessitated the exploration of new large-scale approaches. Throughout this often dis-dense, sequential, arterial and fibrous network that we have been describing, occupation, construction

and agglomeration created clumpy built areas with irregular boundaries: urban centers, dispersed outer rings, mono-functional parcels or large-scale building complexes created flexible patches tied together by sinewy arteries.

“Patches” and “arteries” blended into “syncopated” developments in a territory of strung-together beads; between them interstitial spaces emerged: residual land, border spaces or large unbuilt reserves, which promoted the growing prominence of “default spaces”: interruptions – and virtual “junctions” at the same time – with the potential to promote a more unique, flexible and effective treatment and exploitation of empty space.³²

The harmonious music of a complete, refigured city in a state of equilibrium fell away when faced with the evidence of a complex arrhythmic score – perhaps with eventual melodic fragments, but which was generally characterized by an atonal “un-rhythm” of point and counterpoint that made contemporary urban space into a definitively open and irregular body.

The most obvious physical materialization of this novel “meta-urban” dimension of the new city was a definitively open structure (i.e., not “closed off”; incomplete and unfinished) related to a triple combination of “dense spaces”, “open spaces” and “arterial spaces” – or in more succinct terms, “agglomerative concentrations”, “interstitial spaces” and “support frameworks” – in other words, “built structures (edifications)”, “meshed (infra) structures (arterial networks)” and “open (eco)structures (landscapes)”; or “volumes”, “lines” and “surfaces”. These basic descriptive terms – synthetic compressions of current urban situations – are related to a more abstract relationship, as we will see further on, between occupations, emptiness dilations and connections (full, empty and linked, spaces, interspaces and trans-spaces) called upon to create multiple and recursive combinations, on different scales, between more or less dense “focal points” (*layers* of accumulation), more or less active “land frames” (*backgrounds* of interpenetration), and more or less coordinated weaving meshes (networks of articulation).



"In a completely urbanized space there will be small islands set apart, farming reserves, national and business parks, tourist parks, and waste disposal parks, intersected by transport networks all quite close to each other with no space for an edge, no periphery..."

(STEINER, Dietmar: "Vielleicht eine Biographie der Peripherie" in *Daidalos* no. 50, 1993).

3.26. "Patchwork nets. Analysis of different patterns. Philadelphia and Atlanta as Kaleidoscope Structures." (in *Arch +* no. 112, "Die Gestaltung der Landschaft," 1992)

"Chaos, however signifies the richness (of our cities); within the fragmented complexity is embedded the potential for future quality... This new system of the fragmented city will replace the old urbanistic order of composed spatial sequences by the individual order of juxtaposed programmatic sequences. The customized modern city is made by individual montage of its users, turning them into instant Dada-urbanists, leaving the order-seeking urbanists in despair."

3.27. Willem Jan NEUTELINGS: "Patchwork City". Outline. (in *Patchwork City*, ed. 010 Publishers, Rotterdam 1992).



VIII. Gasifications: Polynuclear, Polycentric, Multi-faceted

The evolutionary process of large urban conurbations has often been compared to the evolution of the gaseous structures in the formation of galaxies.

These formations tie in with the well-known “nebulas” that have been so eloquently captured in satellite imagery.

As noted by Albert Serratos:³³

“A two-part phenomenon characterizes the evolution of metropolitan agglomerations. In most cases, the process is similar to how stars are formed. The accumulation of people or activities at the center of a city – in its nucleus – reaches unsustainable levels. Congestion, contamination, conflict and an increase in costs create serious malfunctions.

Once the bearable limits of ‘density’ have been surpassed, businesses and residents begin abandoning these problem areas in search of more suitable places toward the exterior. Gradually, the tumult of large urban areas begins spreading into the adjacent territories. [...] Ordinances in cities derived from plans, norms or customs then begin to be ineffective, when the interior pressure makes the rules obsolete and the limits are breached, creating problems – and structures – that the rules never took into account.”

The description of this evolutionary process, which is accumulative, progressive and spasmodic at the same time, characteristic of most large-scale contemporary agglomerations, invariably tends to refer back to a noticeably concentric and recurring framework when it comes to detailing the apparent dissolution of a body – the city – which used to be solid but has entered, suddenly, into a rapid process of “gasification”. This framework is frequently associated with an (ele)mental – and clichéd – graphic representation that shows a thick clot in

As the capacity for (and freedom of) movement and exchanges in space increases – the form of cities is expanded into dynamic and irregular structures.

3.28. Simulation of the growth process in Berlin from the 17th century until the end of the 20th, according to studies by Hernán Makse, Shlomo Havlin and H. Eugene Stanley (Boston University) (in *Nature* 377, 608-612, 1995).

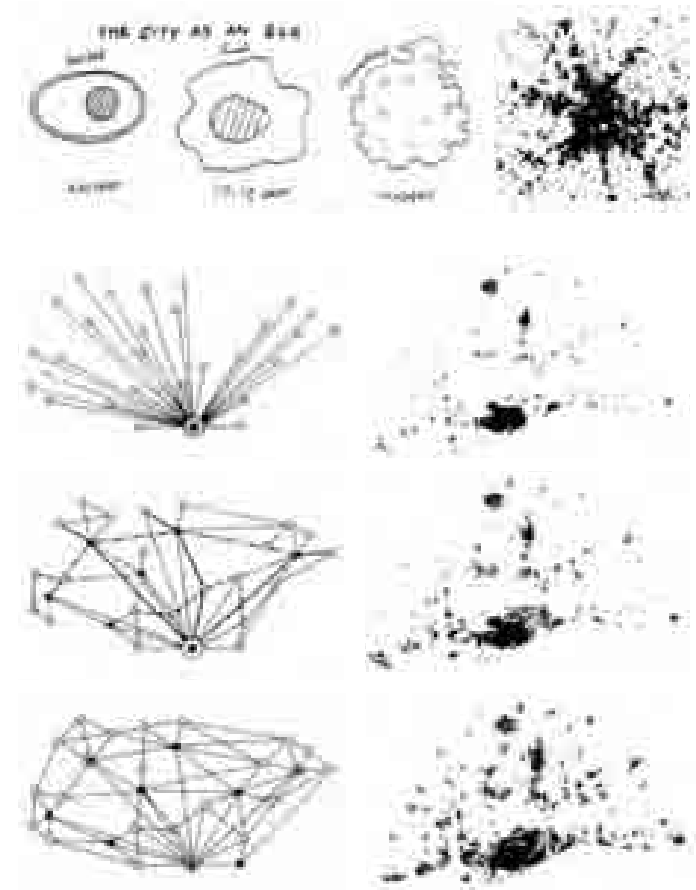
3.29. Changes in a nebulous structure in the constellation Hercules. (Newcomb-Engelmann, Leipzig, 1921).



the middle, an original hard and dense nucleus made up of a mixed conglomeration of old historic urban fabrics; this appears surrounded by an initial overlapping layer: a crust made up of the large-scale enlargements dating from the industrial revolution, where the city block – the *îlot* or the *pâté* – constituted the main element of repetition in a less dense urban order that was still dependent on the continuity of its layout.

The perimeter of that figure was in turn defined by an irregular ring of “modern” suburbs, disjointed estates located in the nearby outskirts where the continuity of construction had yielded enough freedom to allow for a free distribution of the built sections, but where there was still a direct relationship with the existing sections: a “peri-perimeter” that dissolved progressively into a de-densified, diffused and expansive ring – a second periphery in movement – where nature and construction blended together into mixed, ambiguous, imprecise – and, above all, discontinuous – landscapes, broken up by basic infrastructural outlines.ies with a complex and fractal nature, as we will see later on.³⁴

The interest in this drawing (a kind of instant x-ray of a sublimation process, a body that is tending toward its own dispersal) did not rest on an exact confirmation of the model (which, in physics, would tend logically toward the subsequent disappearance of the intermediate states), but rather on the multiple situations of modifications, overlapping, infiltrations and mixture, connection and cohabitation which constantly altered the “purity” of the initial pattern, transforming its abstract formulation into diverse configurations and/or combinations, i.e., into specific realities – internal subsystems with their own evolutionary logics, geographic accidents, interstitial gaps, flow dynamics, informational processes; in short, these modifications produced a series of (inter)actions, inflecting the initial generic models into unique and singular, diverse and diversified trajectories, which were generated beyond the mere abstract reiteration of the old regulated and compact geometries toward new irregular, unfocused geometries: dendritic and rhizomatic geometries; polycentric and polynucleic geometries with a complex and fractal nature, as we will see later on.³⁵



3.30. Above. Cedric Price: The City as an Egg, 1968.

3.31. Progressive schematic for successive urban structures: Radial mononuclear, semireticulate multi-hierarchical, reticulate polynuclear Cedric Price's well-known "egg analogy" illustrates the hypothesis of the progressive transformation of the city into increasingly disperse structures.

IX. Ink Stains. Interactions and Self-Organizations

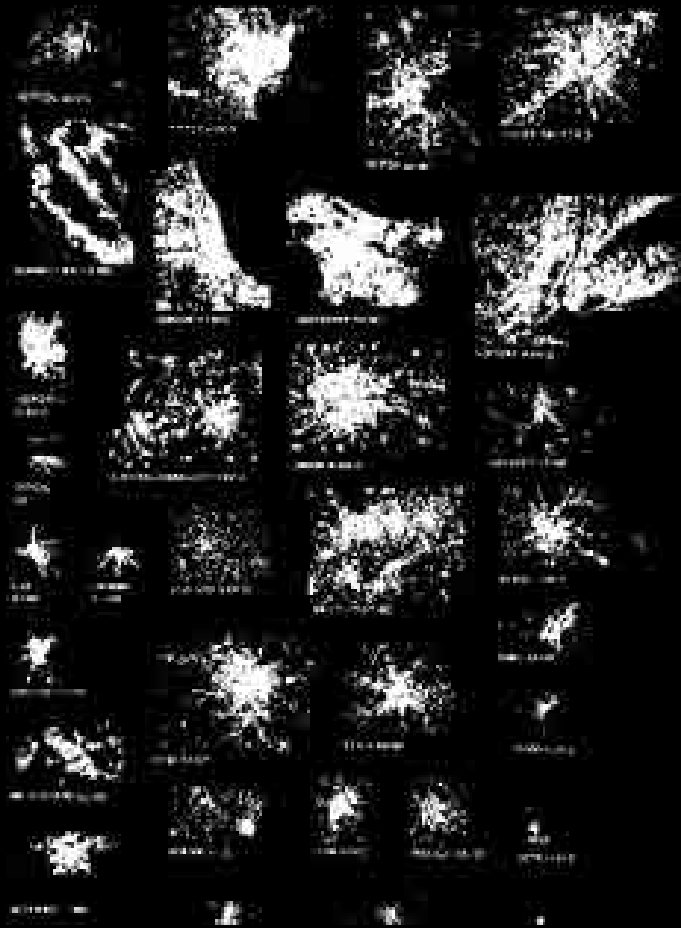
Seen from a satellite, in a binary spectrum of black and white, today the old crystalline shape of primitive cities is dissolved into a polyterritory,³⁶ which appears, in turn, as an overarching ink stain, with multiple spatterings that are not dissimilar, in their abstract granulometry, to those other *space-time* structures that come together in a *multi-scalar* chain, similar to what would occur in an enormous *macro-settlement* open to – highly spontaneous – processes of spatial occupation and free distribution across a surface.

Both in the (virtual) theoretical models and in the (real) structures of the spectrums associated with those processes, the peripheral spaces are much smaller when they are closer to the dense centers and become larger and larger as they move away from those centers.

While the highest density of occupation continued to be located in the traditional agglomerative centers of population and activity, there were also multiple secondary “attractor” clusters with their own incidental movements that created irregular structures in response to combinatory patterns of “*fullness/emptiness/linkedness*”, “*occupation/separation/articulation*”, “*concentration/dilatation/(inter)connection*”.

Thus, the growing expansion of large urban areas led to the formation of increasingly polycentric and discontinuous growths. We could compare them to rippled structures or “rhizomes”, with a tendency toward the appearance of empty spaces, voids and sub-perimeters, limits or edges, which can be described using fractal geometries (such as the well-known examples described by Sierpinski) that respond to progressively more open and irregular processes for the distribution of occupation.

These processes left behind their primitive compact form (that was “trained” or “required” by need) in order to multiply the perimeter conditions of proximity to an uncongested and accessible edge (i.e., an empty space).



3.32. A continent, a territory or a region as a large city. Europe from the standpoint of energy consumption. Maps created from satellite images transformed into B+W abstractions.

(in *Topos* no. 17, 1996, Arch+ n. 121, 1994, and Manuel GAUSA: *Housing: New Alternatives, New systems*, ed. Actar, Barcelona 1998)

The analysis of these patterns established new basic references for analyzing the formation of the current complex territorial systems, isolated from their morphological characteristics and adapted to dynamic and structural patterns that are surprisingly general in nature.

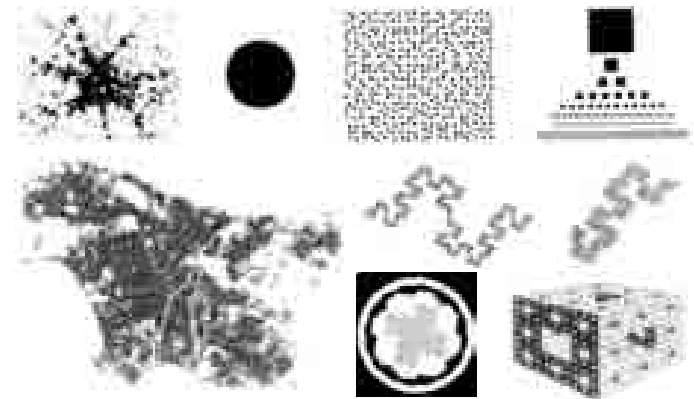
The process of *gasification*, densification, polymorphism and fractality that we are describing appears here as a large-scale phenomenon that, despite the logical differences occurring on a local scale, is largely similar on a global scale, since its evolution responds to the general patterns inherent in any dynamic structure, as opposed to the specific planning decisions corresponding to each particular context.

At the same time, however, this process is responsible for incrementing specific differences, because its main development characteristic is rooted in its ability to evolve, as opposed to the mere confirmation of the common prototypical model: in the multiple situations of modification, action and disruption, combination and interaction, that continually and progressively distort and transform the basic common framework, enriching the general patterns with particular uniqueness.

Indeed, settlements, cities and regions are particularly elaborate cases of dynamic systems that tend toward a virtual – sometimes untamed – self-organization; they are systems made up of multiple and complex interdependent structures in a constant exchange of energy, mass and information with each other and with their/the milieu.

“Open” systems made up of multiple inferior-ranking units (subsystems) that interact in the system and with one another through different combined mechanisms – and logics. In the preceding sections, we put forth how the contemporary city cannot be planned as an “island” – a localized, genuine, nearly idyllic geography – but rather as an increasingly diffuse

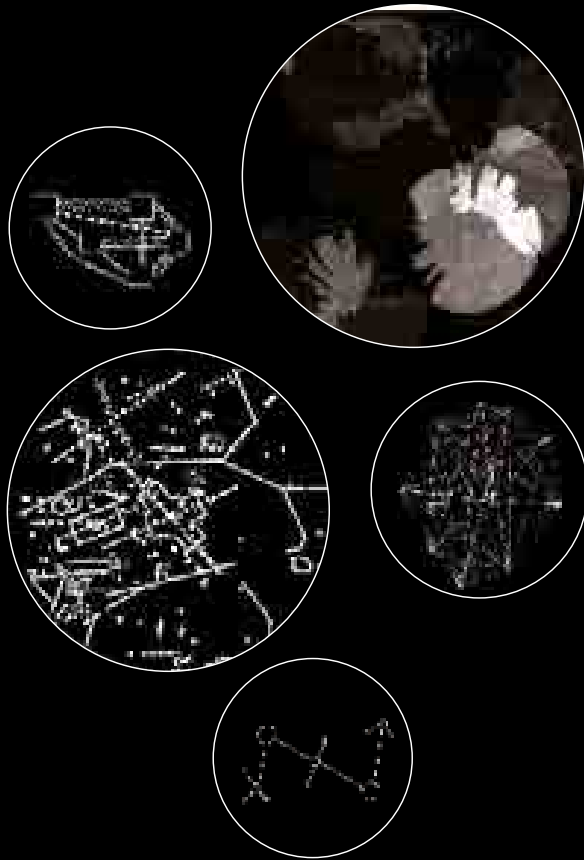
multi-city, a multi-layered structure, a series of multiple cities within the city: real and virtual “cities” – or better yet, territories for relating – which, like any overall organization developed under the direct influence of different factors, end up as the unplanned result of successive events with – or without – an attempt at planning.



The growing expansion of large conurbations leads to the formation of polycentric growths that support the presence of empty spaces – voids – and subperimeters – limits, edges – at different scales that can be described through fractal geometries 3.33 and 3.34. Increase in the degree of urban dispersion in relation to the ideal compact circle of the same occupied area. The more cities grow, the more disperse they become (in *Arch+* no. 121, 1994).

3.35. Minkowski curve or sausage: a curve with the radius Σ .

3.36. Visualization of Sierpinski's recursive growth based on a self-similar geometric structure, or a "Sierpinski cube"



In current urban systems, transportation infrastructures, information transmission channels or telecommunication lines show us the importance of networks – and therefore the (material and immaterial) flows associated with them – as internal matrices of transfer, access and connection occurring simultaneously on different scales.

3.37. Schematic of the flow of movement in a regional system.

3.38. Coverage of a network of weather satellites (in O.P. no. 3.361, 1997).

3.39. Flow map for airspace control.

3.40. Road structure in a spontaneous settlement (Sokota)

3.41. Schematic of focalizing attractors in a regional system. (In Gabriel DUPUY: *Systèmes, réseaux, territoires*, ed. Presses Ponts et Chaussées, Paris, 1986).

X. Matrix Evolution

The progressively irregular development of current urban geometries occurs because – as Michael Batty points out³⁷ – like in any dynamic process, a city's growth is defined mainly by overlapping structures and processes based on specific decisions (with a local scope) that have an effect on its development and its overall "(infra)structure", which then affects the development of those structures and processes in turn. Indeed, the broadest decisions, which affect the general scale of the city and the territory (involving questions of strategy, planning or corporative management) end up being implemented on the level of the particular, in keeping with distinctly contingent circumstances and development mechanisms, in a continuous interaction between the local and global spheres, intended to bring about constant states of redefinition and reevaluation, re-elaboration and restructuring within the system.

Cities and territories, new "urban-territorial" scenarios, appear as algorithmically fluctuating structures. Perhaps understanding their multiple and "relational" organization is the most appropriate way of linking their constant flux to a possible new more flexible systematic, which will recognize matrix-based orders that are fundamentally elastic, permeable, deformable and topological at the same time. Orders that allow for combining the "infrastructural" nature of the system with the variable set of forces that act upon it.

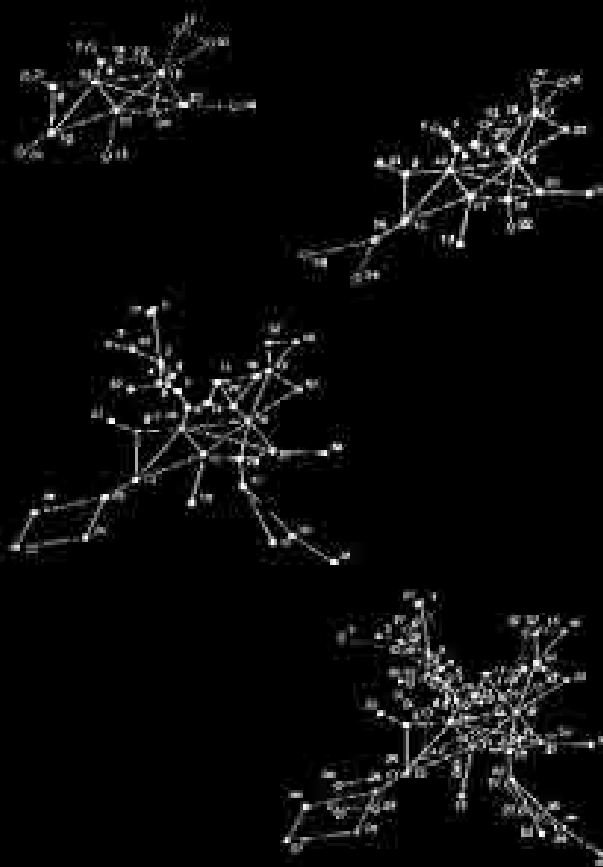
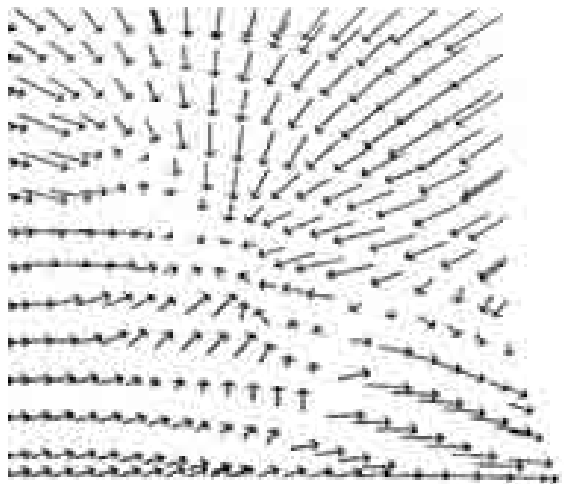
Transportation infrastructures, channels for the transmission of information or telecommunications lines, signaled the importance of networks in those systems – and, therefore, the flows (of materials and information) associated with those networks – not simply as a technical medium, but also as a structural principle for this new matrix-based space that tends toward the multiplication of exchanges, although it was not necessarily more homogeneous or isotropic.

A global and local space that was progressively characterized by

the instantaneity and immediacy of communication, but where a lack of accessibility also led to marginalization – to a periphery that was not necessarily located in the suburbs or on the limits of urban areas, but anywhere, creating profound transformations in the traditional trinomial “home-work-leisure” and the binomial “city-territory”.³⁸

The contemporary global city developed through the constant interaction between two simultaneous realities: on the one hand, its physical materiality and on the other its virtual and informational dimension.³⁹

It is interesting, then, to understand the implicit relationships between these two conditions, between the evolution and transformations of the territorial systems and the constantly changing immaterial information fields whose modifications and interactions translated into continuous redefinitions of the material scenarios themselves, demonstrating the procedural and topological (dynamic and *informational*) capacity of the system.⁴⁰



The evolution of the current territorial systems increasingly adheres to the evolution of the networks themselves and, therefore, to the system's own flexible, variable and matrix-based topology.

3.42 y 3.43. Maps of Western Europe showing the connectivity between capitals. The black dots indicate coordinates in space and their deformation, in white, the coordinates with respect to one another.

XI. Globalization / Glocalization

Since the territorial system we have described here (like any system) could not exist and evolve except through the variable definition of constant interactions, both within the system and with respect to its surroundings, this set of relationships – of strategic and tactical agreements – rested on links that tended to change in keeping with the associated needs (as also happens with social relationships), although they could have maintained a certain apparent stability assuming that they responded to more or less extensive, effective agreements.⁴¹ A necessary relational logic, then, defined the evolution of a series of “networked” territories – located somewhere in between cultural, socio-economic, political and technical conditions – which expressed variable combinations that were open to constant changes and evolutions: the organizational and management dynamics of those scenarios were proposed according to “other” (territorial) scales beyond the “urban” scale – regional, national and continental scales – associated with a concurrence of increasingly *geostrategic* phenomena, movements and flows.⁴²

The latest developments this century have focused on what are called “*information, communication and transportation geotechnologies*” and they have accelerated this transformation of cities (which used to occur imperceptibly), pushing them into a vibratory and ultimately fluctuating state.

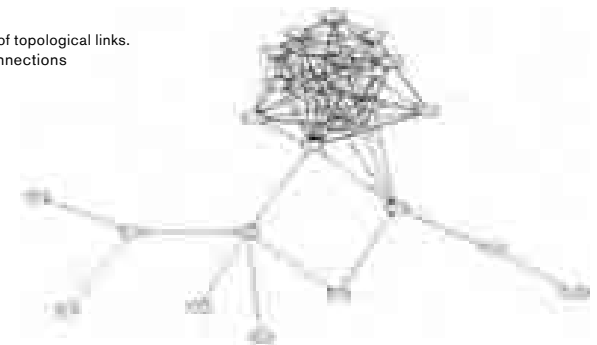
The broad territories of the new metropolises call up a new series of ideological, economic and political questions for urban planning, associated with the crisis affecting the idea of the city – and its physical form – and the crisis of post-capitalist society as a whole.⁴³

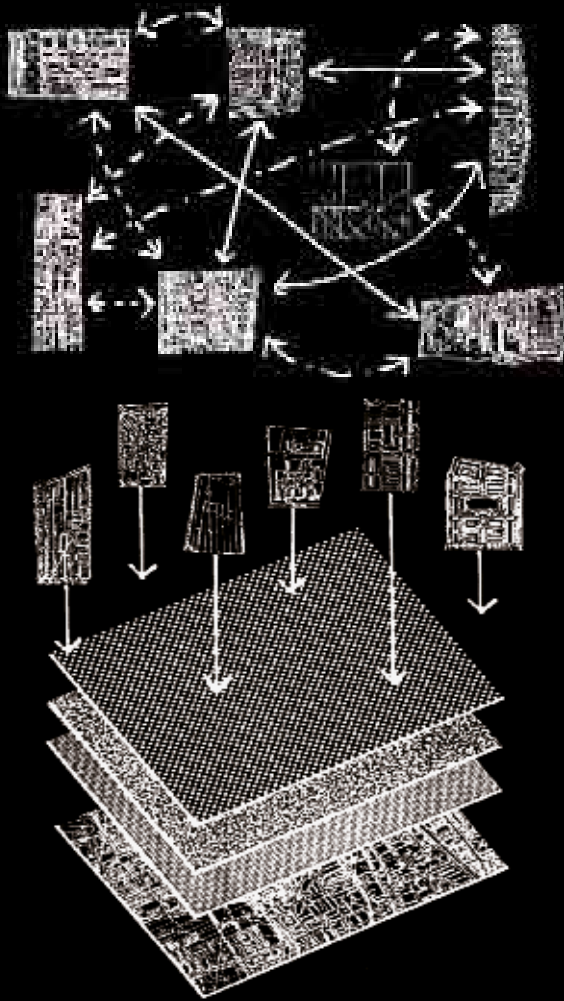
Whereas in traditional cities, the stability of the economic and productive fabric, the homogeneity of the building techniques and the uniformity of the social makeup translated into continuous and homogeneous, stable and hierarchical structures (where the processes of flow and exchange adhered to pre-established formal codes), the contemporary urban context is characterized by interaction (neither continuous nor coherent)

between coexisting social and spatial groupings, but also by the heterogeneity of exchanges that have proliferated on all levels. Cities have been launched into a new kind of evolution, beyond the old logics of territorial expansion based on continuity and proximity, given the constant growth – both in number and in importance – of economic, cultural and social relationships which, stretching beyond the old hinterlands, are guided by fluctuating networks of relationships and levels of information that can easily transcend regional and national borders. A city's potential for development depends fundamentally on these dynamics of exchange and flow, which continuously (actually and virtually) expand and retract, concentrate and enlarge spaces and spatialities, territories and territorialities. This all illustrates the transfer from a “divisory and regulatory” understanding of the city, centered on its physical materialization and its morphology, to a more strategic understanding, i.e., a more global and holistic appreciation, with the potential to encompass this “structural” and “systematic” dimension, as well as the “uncertain” and “non-linear” character of its current relational complexity.

The dimension of a whole that is not only “additive” (understandable from the standpoint of the linear aggregation of its parts), but also “multiplied” – not only in a physical sense but in a virtual one – destined for simultaneity and the interaction of different levels of reality, as well as different levels – and strategies – for its reading.

3.44. Network of topological links.
Nodes and connections





The *n-city* or “multicity” emerges today as a complex and interactive system produced through the accumulation of information layers and interconnected networks in constant interaction.

3.45. Willem Jan Neutelings: “The Carpet Metropolis,” 1995.

XII. Metapolis: The Multi-Layered City or Multicity

Throughout the previous sections, we have pointed out how the contemporary *n-city* or “multicity” could not be approached (or thought about) in terms of a single (stable) “place” or a (pre-established) “form”; or in terms of a “singular” evolutionary stage (or a unique – more or less ideal or coherent – “movement”).

On the contrary, it emerged as a variable, complex and interactive system, produced through the accumulation of multiple, simultaneous and often contradictory actions: stages, states and strata.

A progressively diversified “multi-layer” system produced by diverse, discontinuous, non-permanent and overlapping – coexisting – information and realities that were continually changing, distorting, altering, transforming – and reinterpreting – the fundamental developmental patterns that defined them, and whose strength lay, precisely, in this constant capacity for renewal and modernization. For building and recycling.

A territory that was real and virtual at the same time, that was no longer a form – or at least not just a form – but rather a complex system of relationships and events determined by the consecutive layers of information that defined it (physical but also demographic, biological, economic, cultural, political, etc.) and the large-scale structural networks that articulated it (transportation, energy, information broadcasting, financial transactions, etc.).

Layers and networks that triggered simultaneous processes of action and reaction combined on the basis of their greater or lesser capacity for relationship, effectiveness and complementarity (causing movements of expansion and retraction according to the different agents that tended to have an impact on the territory) and whose effective mapping should favor the translation of this new multiple situation of mobile and variable limits, laid out beyond a simple physical or literal description.

The territory of this new “metapolis”,⁴⁴ constituted in this way, was represented as an instable system that was sensitive to change, determined – as we have pointed out – based on the degree of effectiveness of the combinations between layers of activity (activation/information/definition) and networks of interconnectivity (relation/structuration/articulation) which come together to generate complex processes of interaction; between them areas of “fading” (“disconnections” with little or no information: as more or less active backgrounds).

This structure, built on the basis of different interactions between “*layers, networks and backgrounds*” seemed to tie in with the synthetic combinations that we acknowledged at the beginning of this chapter, which allude to the progressively abstract and infor(mation)al dimension of the contemporary city that refers back, in the most physical sense, to the trinomial:

“*fullness /emptiness / linked-ness*”

“*buildings / landscapes / infrastructures*”,

“*concentrations (dense spaces) / dilatations (open spaces) / inter-connections (support spaces)*”.

Ultimately, it was a system of mobile and changeable limits (geographic and “contractual”) whose effective approach should be considered from a new logic of complexity expressed far removed from the old geo-morphological parameters that, up to that point, had identified the development of urban space.⁴⁵

Beyond the traditional industrial metropolis, the contemporary informational metapolis appeared as a definitively open system, defined by relationships, movements and events in mutual interaction.

In this sense – as François Asher noted in his essay “Métapoles ou l’avenir des villes”⁴⁶ – the *metapolis* constituted a reality that moved beyond and encompassed, from various points of view, the metropolises that we had seen up to now, encouraging a new type of urban agglomeration made up of multiplied, discontinuous and variable spaces, created by urban entities that were increasingly less hierarchically related (less associated

with circumstances of spatial or contextual proximity). On the contrary, they were progressively associated with intermittent or fluctuating dynamics linked with different combinations of “habitat-exchange-production-connection.”

The term *metapolis* encompasses this new multiple and multi-faceted dimension of the contemporary city.

A reality that “transcends” the traditional metropolis.

A vibratory system, that is similar (generic and recurring) on a global scale and different (specific and unique) on a local scale. When we talk about a *metapolis*, we are referring to the elastic territory of the “multicity”, of mobility and exchange, a *metaplace* or a “place of places”, that can be identified, in a more abstract and less physical way, as a multiple, “multi-layered” structure, defined by the different “evolutions” of diverse, combinatory, overlapping and simultaneous realities.

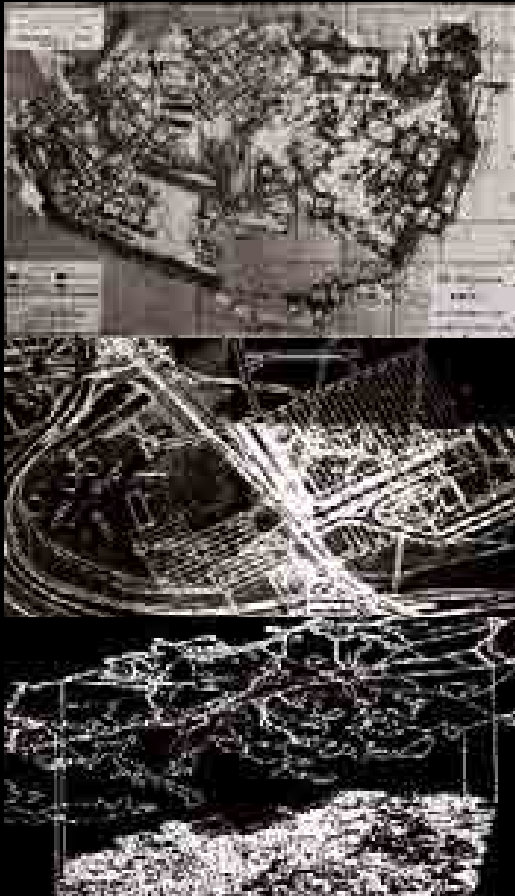
Stages, states and strata, as significant formulations of the the multiple and multi-layered dimension of the contemporary *metapolis*.

Whereas the old notion of the “metropolis” responded to the mechanical logic of a “quantitative industrial production” (i.e., a physical and expansive, more or less uniform, radial and hierarchical growth, around a polarizing center), the notion of the “metapolis” refers to a relational and informational development that is more polyfacetic and matrix-based, more diversified and elastic, produced in a shifted and multi-faceted framework that is generated “beyond” that physical and merely geographical sphere.

A framework for selective relationships – and potentially “qualitative” productions – based on “processing” and “combining” simultaneous information at different times, or instants.

The idea of a “metapolis” does not only refer to the capacity for “growth”; above all, it concerns the capacity for “combination”: for interconnection and interaction.

With the territory and with other territories; with the place and with other places; with identities... and between identities.



"Strata", "stages" and "states" – the multiple and multi-layered dimension of the contemporary metropolis

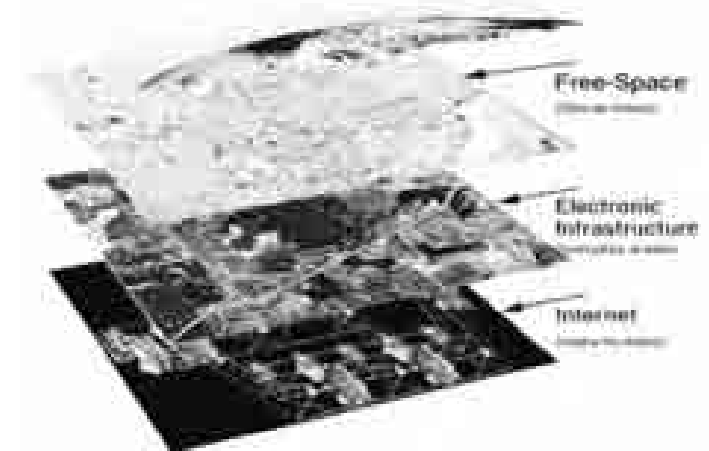
3.46. Troy: Map of the successive and overlapping urban structures (in *BAU* no. 014, 1996).

3.47 and 3.48. Topographical structures, urban structures and infrastructural extensions underground (in *Vag-Och Vattenbyggaren* no. 4, 1990).

Right: Linking territories as new multi-layered scenarios for definition

3.49. Stephen Perrella: Haptic horizon, diagram 1995 (in *"Hypersurfaces: Socius Fluxus," The Virtual Dimension*, ed, Princeton Architectural Press, New York, 1998).

That is the essence – if it has one – of the contemporary metropolis: it is a "hyperplace", a "place of places", a rich global kaleidoscope of local offerings and opportunities. The old notion of the "metropolis", which calls up the idea of a "hierarchized big city" characteristic of an industrial logic, would indeed seem like an inappropriate concept today, for the purpose of translating this new type of complex, multiform, polyhierarchized and elastic structure that is no longer affiliated with a physical territory, but with a set of simultaneous information and temporary and "contractual" – i.e., relational (economic, social and (or) spatial) territories; lifestyles, production methods, landscapes, inhabitants, activities, etc. These elements are integrated into the daily workings of a "reality" made up of various different "realities" (which are no longer necessarily adjoining, though they make up a single "framework" for exchanges and interchanges, habitats and activities) tending toward a spatial multiplicity that is increasingly more difficult to represent, but also a "territorial" fluctuation that is increasingly difficult to map.



XIII. Elastic Territories: Multi-Layered Cartographies

The contemporary “multicity” or the new “multilayered metapolis”, was increasingly posited in this way: as a complex, heterogeneous organism that was progressively more difficult to subject to the old planning formulas (forms and models) that were closed off and static. In contrast, its evolutions responded to the parameters of a strangely informal (*informational*) order which, like any dynamic development, led to the emergence of a new kind of organization related to global “typological patterns” (that could be deduced from those processes on all scales and all levels) but also to successive and simultaneous processes of interaction, whose fluctuating, unstable and irregular nature tended to grow at the same time.

The conclusion to that scenario was the adoption of a different kind of tools for analysis that were capable of studying the city, not as a “figurative fact” but as an evolving and definitively interactive process; an open “dis-dense” process – which is discontinuous and dense at the same time, as well as irregular and connected, diverse and disperse.

In approaching this new reality – the result of mobility, exchange, migration and precise communication, a persistent attention to factors of “simultaneity” that might introduce “descriptions-evolutions” of the system and within it: occupational, demographic, environmental and cultural parameters, as well as parameters of connectivity and use, etc. served as the foundation for possible “selective cartographies”, with a specific purpose – and often a surprising and unprecedented one – where the city appeared – compressed – into basic “levels” of information that could potentially be activated in – and through – different suitable tactical combinations.

For the purposes of its adequate recognition, this new type of multiple spatiality required the creation of “n-dimensional maps” for registering and prospecting, as well as for defining the possible associated “n-differential” strategies, understood as “directional vectors”, essential to ensuring a qualitative orientation for the possible global system(s): “informational” (tendential)

3.50. A dynamic map of topological deformation according to variable processed information.
Variable codifications: structures of deformation and tracking based on networks and numbers.

maps, but which were also “slanted” (intentional) maps of the city and/in the territory.

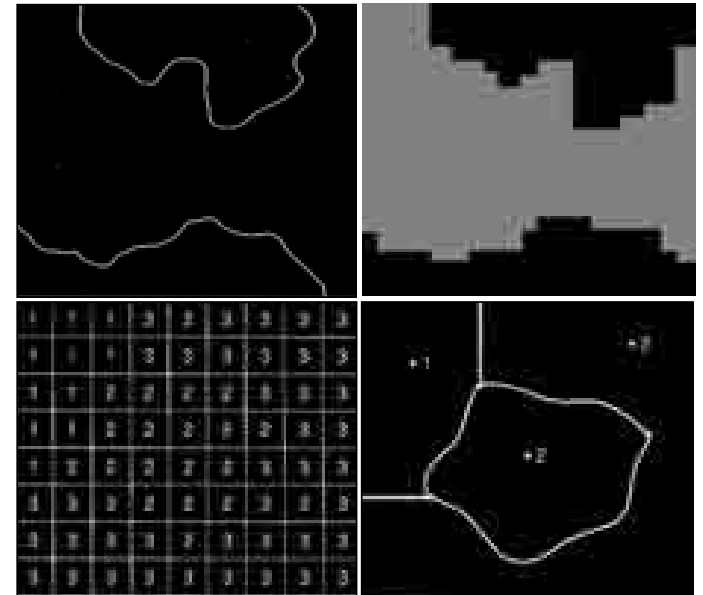
(Combinatory) *maps* and (relational) *strategies* capable of selecting relevant data from a multiple reality, processing it, registering it, synthesizing it operatively in order to better “map” its respective levels of “incidental information” and its ability to combine that data into actually or potentially intentioned relationships.⁴⁷

“Layer-maps” of a multiple – “meta-territorial” – city, approached from the standpoint of recording and overlapping different relational territories (and synergies) rather than based on simple contiguity and/or physical proximity: “positioning maps” intended to situate the city within the right interregional dynamic; flow maps, maps of patterns and infrastructures, like linking networks and connecting nodes; maps of a subterranean cross-bred city, like underground layers; economic maps of a city for sale, approached from a real-estate perspective; maps of an environmental city, with open spaces, large-scale green areas, relational spaces and air pollution parameters that affect quality of life; maps of a city made profitable in terms of cultural factors, symbolic factors and/or tourism; maps of a retractable city related to migratory movements and demographic transfers (*fluctuant maps*); and, lastly, maps of a marginal city: of areas where there is tension, conflict or shortage.

Synthetic maps and data maps – processed, recorded and codified – whose main combinatory capabilities lie, ultimately, in the compatibility among processes fostered “in” and “by” the system itself: possible (*inter*)connections and *synergies* among information, phenomena and strategies, i.e., among simultaneous trajectories of evolution and demand.⁴⁸

The decidedly “multiple” and “multi-layered” – i.e., (inter)active and, therefore, (inter)changing – condition of current territorial structures confirms the transfer from a totalizing, static vision of the urban sphere, to a vision that is more sensitive to the logics of relation, variation (and distortion) associated with “phenomenologies of change” and, as such, it justifies the recent interest in the analysis and understanding of dynamic systems.

These systems produced in situations of spontaneous – and free – expansion, unfolding and movement in the territory formed structures that were very different from the ones that the sciences and disciplines concerned with space had been dealing with for the past 200 years: static structures, with a linear order (or accepted as such, given the apparent gradual nature of the changes that affected them) that can no longer effectively respond to dynamic processes subject to developments characterized by significant discontinuities in their behavior and marked by distortions, conflicts and divisions, with a tendency to progressively increase the irregularity of what had until recently been understood as “milieu” or “contexts”.



3.51. Abstraction and concretization. Tracking structures based on grid matrices and numbers. Visualization sequences of a thematic map according to levels of processed information.

XIV. Dynamic Processes: Overlying or Linked Structures

Because of their changing, evolving nature, our universe, our behaviors and most evolving physical phenomena – especially cities – are tied in with explicitly dynamic, non-linear systems which, as opposed to traditional linear systems that are stable, uniform and easily controllable – end up resulting in highly unstable and uncertain process, which are often apparently incoherent precisely because they are undisciplined.

Though generic behavioral patterns can be recognized in those systems, the degree of complexity (and, therefore, diversity) depends on their ability to bring together – in order to connect and process – multiple different messages and relationships of exchange at the same time, i.e., layers of (material and immaterial) information and connection networks in constant entropic combination. The old compact, defensive and concentrating forms have progressively made way for other, more disperse and irregular forms that have translated into a more impure, more indeterminate and “informal” kind of order.

Every day, we experience this kind of phenomena – which may appear somewhat abstract – in the manifestations of our society, which is increasingly heterogeneous and changeable given the rise in (inter)communication, mobility, cross-breeding and the tolerance for difference: i.e., the progressive affirmation of individuality within plurality not as an isolated occurrence, but rather as the ultimate manifestation of an interwoven diversity intended to promote a more multifaceted and unusually agreed-upon kind of organization. That, perhaps, is what we call civilization. The possibility of imagining flexible and empathetic contracts – relationships and interactions – among differences.

Because, in situations of inertia (or a lack of foresight), this kind of process also tends toward the random accumulation of individual events that are progressively “un-orchestrated”: opportunistic “movements” that bring about general anarchy (or

disorder) in the absence of open (strategic and/or tactical) criteria for organization with the ability to direct the evolutionary force of the system.

More and more, social progress, technological developments, the exchange of information and increased mobility are promoting a growing potential for and freedom of movement – as well as occupation – in (and of) space.

The contemporary city is put forth as a generic and swiftly dynamic system – a process – whose diversified and heterogeneous evolution involves – and announces – tensions and conflicts. However, seen in a positive light, it also invokes an exciting kaleidoscope of opportunities.

An offering (a menu) of situations and varied experiences for the contemporary citizen, which can translate the heterogeneous character of a freer and more diversified societies into their behavior, but also into the spaces and events associated with it.

We find ourselves perplexed and somewhat frightened in the face of this variety, the unexpected, the unfamiliar or unusual character of the most disconcerting, hazy and vague manifestations of the city (traditionally associated with a place of stability, continuity, compactness.)

Its emergence is relatively recent and apparently “untamed”, and seems to be formed by a whole series of structures that are *emboîtées* – fit together, overlapping, linked up – developed as the result of a multiple interaction between processes of “planning”, “self-organization” or “expectation” and which, in the end, calls on the “open” nature of the systems we are discussing here.

If the contemporary city, or the new multi-layered metapolis, is postulated as the progressively dynamic, complex and sensitive organism we have described, its own (internal) logic responds increasingly to the factors of a strangely inform(ation)al logic which – like any dynamic process – tends to evolve, demonstrating a new kind of organization that is more fluctuating and definitively irregular.⁴⁹

- 1– See ROSSI, Aldo: *The Architecture of the City*, ed. The MIT Press, Boston 1984, p.29.
- 2– See SOLA-MORALES, Ignasi: "Fer la ciutat, fer l'arquitectura (1945-1993)," in V.V.A.A: *Visions Urbanes*, op. cit. pg. 401.
- 3– Ibid.
- 4– See SOLA-MORALES, Ignasi: "Qüestions d'estil," in V.V.A.A : *Barcelona, espais i escultures*, 1982-1986, ed. Ajuntament de Barcelona, 1987.
- 5– See GAUSA, Manuel: "Systèmes ouverts vs. compositions fermées," in *Catálogo European III*, ed. European, Paris 1994 and "Salto de escala," in V.V.A.A: 1856-1999. *Barcelona Contemporànea*, ed. CCCB, Centre de Cultura Contemporània de Barcelona, Barcelona, 1996.
- In this chapter, we use the prefix <RES> in the Latin sense of the word "reification" or "objectification" (i.e., in an essentially reified conception of the urban sphere). But it also ties in with the meaning of retro-active, from the prefix RE, made into a plural RE(S), in its meaning as "going back to the beginning or return" (retro-action).
- We have preferred the latter, however, RES – as opposed to RE – because it has been used recently in texts as a prefix associated with a capacity for re-novation, re-activation, re-encouragement and re-vitalization, through regeneration rather than retro-action (feedback).
- 6– See BOHIGAS, Oriol: "Per una altra urbanitat," in V.V.A.A.: *Plans i projectes per a Barcelona*, ed. Ajuntament de Barcelona, Barcelona 1983, pg. 5.
- 7– See ROSSI, Aldo: *The Architecture of the City*, op. cit.
- 8– See ALBANESE, Giorgio: *Introduzione all' analisi fisica e formale del territorio*, ed. Casa del libro, Roma 1983.
- 9– See GREGOTTI, Vitorio: "Architettura e Geografia," in *Casabella* no. 41, 1997.
- See also SECCHI, Bernardo: "Il territorio abbandonato," in *Casabella* no. 512-513-514, 1989.
- See also INFUSI, Francesco: "Ritorno all' territorio," in *Faces* no. 8, 1989.
- 10– See COSTA, Xavier: "Non-Places and the Metropolis," in *Quaderns* no. 207-209, 1995, pg. 299.
- 11– The "new objectivity" predicted by the magazine *Quaderns* confronted the urban lyricism of the traditional city with the "metropolitanism" of the emerging city. The following issues of the magazines were paradigmatic at the time: 171 (Rigor), 1987, 176 (Intersecting voices), 177 (New narration) 178 (Sliding) as well as the issues no. 181-182 (Geographies) y 183 (City and project).
- See MATEO, Josep Lluís: "The Center Does Not Exist," in *Quaderns* no. 175, 1987.
- 12– See STEINER, Dietmar: "Vielleicht eine Biographie der Peripherie," in *Daidalos* no. 50, 1993, a special issue on the subject called "An der Peripherie."
- 13– See MATEO, Josep Lluís: "Towards the End of the Century," in *Quaderns* no. 164-165, 1985, pg. 38.
- 14– See MEILI, Marcel: "Periphery: A Letter from Zürich," in *Quaderns* no. 177, 1988;
- 15– See WENDERS, Wim and KOLLHOFF, Hans: "The City: A Conversation," in *Quaderns* no. 177, 1988;
- 16– "We still haven't understood the breakdown of urban space generated by the Modern Movement [...]. It has just begun to be explored in all its consequences."
- See SOLA MORALES, Manuel: "El trazado está en el coco," in V.V.A.A: *H/C: vivienda y ciudad*, ed. COAC Quaderns Monografies, Barcelona, 1989 pg. 97.
- 17– See V.V.A.A "Les entrées de villes cherchent leurs marques," in *Urbanisme* no. 262, 1963 and numbers 109, 110 and 112 of *Arch+*, 1991-92.
- 18– See SOLA-MORALES, Manuel: "Public Spaces, Collective Spaces," in *Quaderns* no. 198, 1993, pg. 48 and WALL, Alex: "Big Buildings," in *Quaderns* no. 191, pg. 40.
- 19– See GUALLART, Vicente: "Sabadell-Paris 3h.30min," in *Quaderns* no. 93, 1992, pg. 22.
- 20– See NEUTELING, Willem Jan: "The Ring Culture," in *Architectural Design* no. 3/4, vol. 64, 1994 and *Quaderns* no. 213, 1996, pg. 166-167.
- 21– "The traffic infrastructures therefore form the only globally structuring project. Infrastructures independent of building, they establish a fibrous fabric on the territory."

- See MATEO, Josep Lluís: "Ciutat Nova: An Anatomical Description," in *Quaderns* no. 187, 1990 y DUPY, Gabriel: *Systèmes, Réseaux et Territoires*, ed. Presses Ponts et Chaussées, Paris 1985.
- 22– See GAUSA, Manuel: "Transfer," (on the new typologies linked to transportation infrastructures) in *Quaderns* no. 192, 1992.
- 23– See SERRATOSA, Albert: "El sistema viario y la política territorial," in *O.P* no. 35, 1996.
- 24– See STEINER, Dietmar: "Vielleicht eine Biographie der Peripherie," in *Daidalos* n° 50, 1993.
- 25– WALL, Alex: 83. op. cit. in addition to his text "The Car and the City: Victor Gruen in America 1943-1962," in *Quaderns* no. 218, 1997, pg. 83.
- 26– See FERNANDEZ ALONSO, Juan Manuel: "Arquitectura y urbanismo para el territorio contemporáneo," in *BAU*, no. 014, 1996.
- 27– See RIBBECK, Eckhart: "Laboratorium Peripherie," in *Daidalos* no. 50, 1993.
- 28– See SOLA-MORALES, Ignasi: "Terrains Vagues," in *Quaderns* no. 212, 1996.
- 29– See GAUSA, Manuel and COSTA, Guim: "13 fragments and 3 epilogues," in *Quaderns* no. 218, 1993, pg. 42-43.
- 30– See NEUTELINGS, Willem Jan: "Patchwork City," in *Architectural Design* no. 2/4, vol 64, 1994 and *Patchwork City*, ed. 010 Publishers, Rotterdam 1992.
- 31– See GAUSA, Manuel: "Llobregat Coast: Kaleidoscope or plankton?" in *Quaderns* no. 195, 1992 pg. 69. See also KIERAN, Stephen & TIMBERLAKE, James: "Die neue amerikanische Landschaft," in *Arch+* no. 112, 1992.
- 32– "If the space of the current city is an interstitial space between networks and infrastructures, urban design should address this new sectorial logic."
- See DEVILLIERS, Christian: *Le projet urbain*, ed. Pavillon de l'Arsenal, Paris 1994.
- 33– See SERRATOSA, Albert: "El sistema viario y la política territorial," in *O.P* no. 35, 1996.
- 34– See GAUSA, Manuel: "Metropolis>Metapolis: New Ways of Mapping the Contemporary City," in *Quaderns* no. 213, 1996, pg. 10.
- 35– Véase ABALOS, Iñaki and HERREROS, Juan: "Mixed Use," in *Quaderns* no. 191 (Big Buildings), 1991, pg. 56 and ZAERA, Alejandro: "Orden desde el caos," in *Exit* no. 1, 1993, pg. 23.
- 36– See KRAFT, Sabine: "La périphérie: mobilité et projet urbain," in V.V.A.A: *Construire la ville sur la ville, Catalogue European*, ed. European, Paris, 1995.
- 37– Véase BATTY, Michael: "Sobre el crecimiento de la ciudad," op. cit.
- 38– See ASHER, François: *Métapoles ou l'avenir des villes*, ed. Odile Jacob, Paris, 1995.
- 39– Véase GANDELSONASS, Mario: "The exurban observer," Lecture given in the context of the "UIA-Barcelona 96" congress. Fragment in *Quaderns* no. 213, 1996, pg. 152.
- 40– See also DUPUY, Gabriel: *Systèmes, réseaux, territoires*, ed. Presses Ponts et Chaussées, Paris, 1986.
- 41– See DERYCKE P. H: *Économie et planification urbaines: théories et modèles*, ed. P.U.F, Paris 1982. See also DUPUY, Gabriel: op. cit.
- 42– See SHANNON, Kelly: "Re-Politizing the Metropolis: The Strategic Project Approach," Lecture given in the context of the "UIA-Barcelona 96" congress.
- 43– See BALLESTEROS, José and BARAHONDA, Miguel: "La ciudad que no se ve," in *Fisuras* no. 5, 1998, pg. 60.
- 44– See GAUSA, Manuel: "Territorio vibrátil: reconocimientos en clave de acción," in *BAU* no. 014, 1996, pg. 30.
- 45– See GAUSA, Manuel: "Territorio and Mutability: New Forms of Mapping," in V.V.A.A: *You Are Here: Architecture and Information Flows*, ed. MACBA, Barcelona 1995.
- 46– See ASHER, François: *Métapoles ou l'avenir des villes*, ed. Odile Jacob, Paris, 1995.
- 47– See FARGAS, Josep M. and PAPAZIAN, Pegor: "Territory and Modeling," in *Quaderns* no. 194, 1992, pg. 90.
- 48– See GAUSA, Manuel: "Territorio and Mutability: New Forms of Mapping," op. cit.
- 49– See BATTY, Michael: "Sobre el crecimiento de la ciudad," in *Fisuras* no. 5, 1997, pg. 4.

4 RECORDS

Multilayered Cartographies:
Maps and Projections

“Modern, postmodern, eclectic: tolerant and despotic at the same time, transparent and telematic, subject to incredible flows of communication, exposed to the most radical and irreversible transformation of any that has been experienced by humanity: that is our era. A growing complexity brought about by multiple processes and that brings with it the modification of the symbolic structures that have been used to think about the different orders that make up our culture.

In its place, a profound dissolution and metamorphosis indicates and indefinite, unresolved, time that is governed by the strongest of equivalencies and the strictest of differences. This space has emerged today as a place for uncertainty and for invention. No one knows if its fate will be decided by the simple law of entropy – pure force dynamics – or if it will be mediated by the construction of new qualifying types of order, which are possibly still under development.”

Francisco JARAUTA: “Tensiones del arte y la cultura contemporáneos,” in V.V.A.A: *Otro marco para la creación*, ed. Universidad Complutense, Madrid 1994.

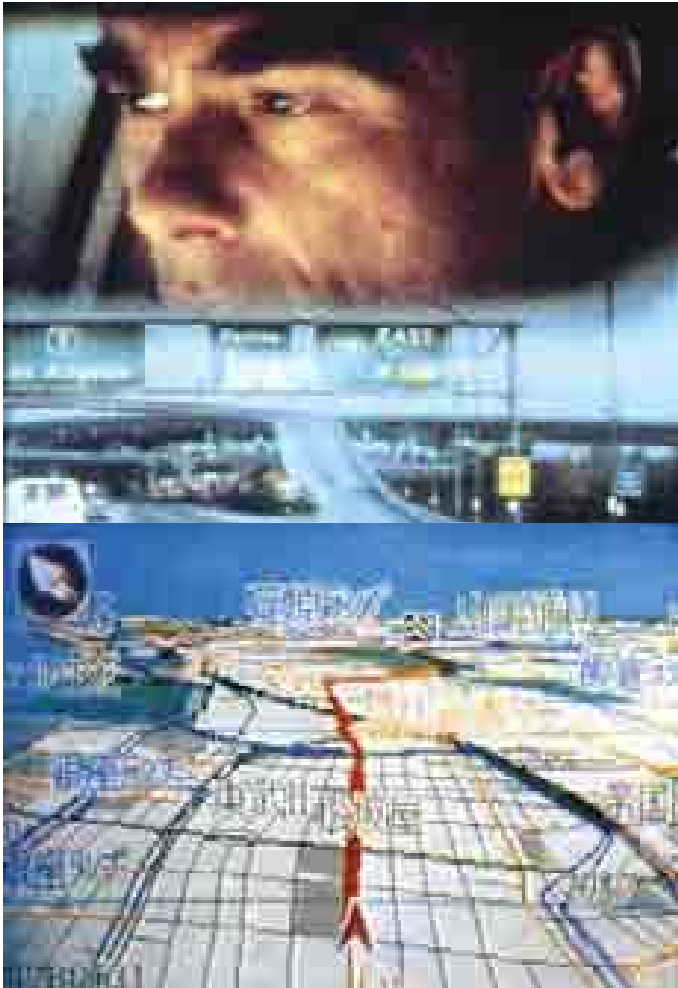
I. Ordinary/Extraordinary: Simultaneities and Slippages

The changes that have occurred in our living spaces – landscapes, cities, territories – have led to a change in our perceptions – and our perspective on our surroundings. A change in our methods of recognition and recording associated with the experience of a new kind of multiple spatiality promoted by growing development in the means of communication, exchange and movement in scenarios perceived as progressively complex because of their heterogeneous manifestations – subject to overlapping, mixtures and shifting, as a result of their polyphony and changeable nature.

We recognize some of their most obvious expressions, suddenly, in many facets of our daily lives:¹

- in our movements through the territory of a city that has been progressively “harlequinized”;
- in our daily “touchdowns” in a universe charges with external images (and news);
- in our ever more frequent “abduction” into universes that are

4.1. Criss-Crossings, Domesticity and Mobility (in Willem Jan NEUTELINGS: *De Ringcultuur*, ed. Vlees en Beton, Rotterdam, 1988).



4.2. Mobility and dynamic perception. The iconic screenplay for "Paris, Texas" in the 1980s, Wim WENDERS & Sam SHEPARD, ed. Road Movies/Greno, 1984.

4.3. Navigating through a virtual city (Nikkei Design, 7/95).

both far-off (distant) and near-by (accessible) at the same time, within a "virtual neighborhood" (diffuse and immaterial) with the potential to promote complicity, voyeurism and piracy, on a network;

– in our growing experience of greater individual freedom linked and "bound" to a stronger – positive and negative – collective interconnection;

in short, in our constant perception of a setting that is constantly renewing itself: changeable, fleeting, associated with the movement in and of an environment in rapid transformation, where apparently stable realities are left behind for new vague realities.

These sudden "shifts" occur between the commonplace and the extraordinary, the predictable and the surprising, the stable and the ephemeral, the familiar and the foreign. But also between the marginal and the institutional, the institutional and the alternative, the alternative and the profitable, the profitable and the qualitative, the qualitative and the conflictive, the conflictive and the potential: the artificial – because it is strange – and the "strangely natural", because it is artificial.

As such, we register these stubbornly slippery manifestations of a new definitively dynamic and complex reality that is structurally chaotic, apparently random and frequently incoherent, and which seems to be a response to the crossbred and ambivalent nature of progressively overlapping phenomena – and processes – where the abstract overall structures tend to articulate surprising local iconographies (which can be fertile and stimulating at times; anecdotic and anachronistic at others) in the same way that unprecedented situations and events tend to coexist with repetitively repeated "tried and true" inertias and behaviors. Indeed, we are witnessing a time shift, the transfer from a culture of succession (gradual and continuous) to a culture of simultaneity (overlapping) and "syncopation" (ultimately "discontinuous").

A culture that augments the complex, paradoxical and irregular condition of our informal and informational environment, which we

intend to examine in this book. Within this new “shifting” framework (understood as “displacements”, as “movements” and “defamiliarizations” at the same time), we coexist with routine, intrigue and surprise, with predictability and uncertainty, at the same time.

The conditions of a scenario marked by interactive simultaneities of synchronicities and discontinuities, atonalities and simultaneities, not far removed from this potential feeling of “suspense” – a tense and unstable equilibrium – between the expected and the unexpected, the determined and the indeterminate.²

Between order and chaos, control and chance, routine and surprise.³

Beyond old behaviorist narrative, this is a new kind of multiple and multiplied, “troubled” (and sometimes “troubling”) scenario where all scales of recognition of the environment – settings, periods, interventions, times – are perceived simultaneously.

And this multiplied experience – halfway between film montage and digital data processing, where overall perceptions and the assembly of fragments join together different scales, information and events – is what amplifies our current sensation of complexity and paradox in the face of surroundings that are apparently more



4.4. Between the Episodic and the Structural: Cohabitations.
Photograph: Reinhardt PATZ: *Nude*, 1981.

“artificialized” in that they are ordinary and extraordinary; syncopated and intertwined; discontinuous and sequential; singular and generic.

Again; multiple and multiplied. A paradoxical scenario, which also alludes to the progressive acceptance of mixtures (cross-breeding and blending) that are unauthorized or impure – in short, diverse and irregular – as an interactive condition of the “present”. The awareness of this “agreed-upon” – but not necessarily “united” – diversity reflects the emergence of a new more permeable, more elastic – more open – “logic” of the simultaneous interaction between experiences and scenarios that are interposed and superimposed at the same time.

The classical idea of “communion” – as a stable link between consciousness and cohabitation – makes way progressively for the notion of connection – or interconnection – as a flexible and varied relationship among variable and differentiated “n-identities”: a relationship that is more suited to this “diachronic synchronicity” – purer and more cross-bred – among experiences, situation and behaviors, but also between places and events (both individual and collective, singular and plural) which tends to fit in with a new conception of diversity as an irregular network “of” – and “between” – differentiated and intertwined events.



4.5. *Suspense*. Unpredictable situation in a predictable framework.
Alfred HITCHCOCK: *Vertigo*, 1958.



"I looked at reality and I saw a universe where the same real captured image could be split simultaneously into two – or more – virtual images.

- where a cube could also be a sphere at the same time.
- where a digital fish 'champion' could leave the water to ride in an imaginary tour.
- where an artificial (covered) sea could compete with a natural (open) ocean.
- where a primitive king's throne could also be a brand new car.
- and where luxury would tend, often, to shake hands with poverty.
- where mixture was not necessarily cohesion, but interaction.
- where the sum of different pure 'geometries' ended up producing other 'impure' geometries, just as the juxtaposition of successive desires for order always leads to a progressive sensation of 'disorder'."

DERN, Jamie Q.: "Message on the Internet"

II. Criss-crossing: Cohabitations and Discontinuities, Behaviors and Estrangements

This scenario places our vision – as stated earlier – in a new and constant "uncertain condition", but which also lets us intuit a space that resists labeling and which proclaims the ultimate disruption of the secular confrontations between reality and potentiality, between permanence and transience, between routine and change – between city and landscape – blended today into a new geography of mixed and heterogeneous experiences – and scales;⁴ In this sense, the dualism "artificial/natural" was one of the most affected by the sign of a time characterized by fusions and dissolutions that erased the traditional limits between categories, mixing them together into a possible joint definition: naturartificial⁵ – as an attribute of those fluid scenarios – increasingly hybridized and paradoxical

From a "topical" space, we have shifted to a "teletopical" one where the real time of broadcasting an event blends together with the real space of the event itself,⁶ where the heterogeneous perception of experiences and scenarios – "projected" and simultaneous, virtual and real – overlap with the apparent calm of stability, stabilization and the established.

This slippery, atonal condition implies a new type of perception, which is also associated with a new experience of "change" – often created during situations of relocation and clashing. From crossings to crossroads.

We have referred to this kind of scenarios – of overlapping associated with spaces, phenomena, situations and behaviors, affected by multiple experiences and demands – as "criss-crossings".⁷

Simultaneity and brevity, dynamism and stability, irregularity and dispersion are some of the many variables that we intuit as what we might call new "framework conditions" (F.C.): "conditions for change" related to the transformation of new scenarios, but also to the transformation that is apparent in

Reality and potentiality, transience and stability, as synchronous experiences.

4.6. Fish on a bicycle. Advertisement.



"Cows": scenarios of change coexist with socially and anthropologically slow scenarios

4.7. Formal Aut: Kuh Projekt, Vogelsberg, Hessen, 1986.

4.8. Seton SMITH: *Détails sur la départementale 8* (Différentes natures, ed. Fiacre, Paris 1993).

4.9. Steven HOLL. Image from *Edge of a City*, ed. Princeton Architectural Press, New York 1990.

4.10. Row houses. Lars TUNBJÖRK, photographer: *Andet Utom Sij*, 1991.

the current cultural context, which is more sensitive to the compatible multiplication and overlapping of different social and spatial realities; to this vague mixing and interweaving coexistence of relationships and disconnections, familiarities and defamiliarizations between the universal and the particular, the systematic and the contingent, the domestic and the public, the real and the virtual, the natural and the artificial – in short, between the commonplace and the over-place, the ordinary and the extraordinary – which tends, increasingly, toward articulating situations and experiences (of one's own and others) and to which the relevant role of new information technologies and means of transportation and communication in working life and domestic life, translating this decided loss of stability and "positional" essentiality into a multi-faceted and multi-phased "hyper-scenario" composed of multiple situations, conflicts and tensions, but also possible qualitative re-evaluations – and reinventions.





Individuality and heterogeneity. The city as a menu of opportunities to be discovered, promoted and qualified.

4.11. Individuality and plurality as articulated, expressed and instrumentalized diversity. (in *Sneakers: Size Isn't Everything*, ed. Booth Cribborn, London 1998).

4.12. Amsterdam Digital City (in *Architectural Design* 11/12, 1994).

4.13. MVRDV: Almere 2015, 1997. The city, a hyperplace, a collection of individualized and interconnected scenarios.

III. Framework Conditions (F.C.)

The old codified and universalist vision of homogeneity is faced with a new sensibility more in keeping with the differential – qualitative – value of space interpreted as a possible “exchange” of information and energy: an “interface” and/as a “reactive” environment that is non-transferrable and cross-cutting at the same time.

The consciousness of a multiple and articulated identity as a positive value related to the interpretation of a simultaneous and plural scenario – where the individual and the collective, the specific and the generic, but also the old and the new, the natural and the artificial, the global and the local can be harmonized – only goes to confirm the assertion of a new sensibility toward the differential, combined with the assumption of a new co-responsibility understood more as a synergy with the milieu – as a qualitative interaction – than as an invocation of its former attributes: ultimately, an articulated expression of its diversity.

This demonstrates the transfer from a generation obsessed by the definition of form between architecture and the city (the city as a stable setting resulting from the buildings) to a new generation more attuned to this dynamic capacity for relationships – exchange and interaction – on an individual and collective level, particular and general, local and global at the same time, with an urban-territorial milieu that is increasingly more multi-faceted and complex.

More ambiguous and ambivalent.

These conditions were put forward, then, as the expressions of a “proto-moment” of change, outlined at the beginning of this book, tied into the assumption of the dynamic and complex nature of our environment and a time that, as Yorgos Simeoforidis pointed out, is no longer a time of continuous duration: the gradual, repetitive ‘mythical’ time of the classical city⁸ (a “ritual” time, whose main characteristic is repetition, the recurrence of all its forms and events, the “cyclical return” where the sensible world finds its permanence – the stability in short,

which philosophical logos situates among the forms, essences or ideal abodes).⁹ It is, instead, an arrhythmic, unprecedented and demythologizing time, whose most explicit characteristics and manifestations constitute the true framework conditions of these new scenarios... and of our own present time.

- Complexity (simultaneity), that is, heterogeneity, synchronicity (in-cohesion/imbalance)
- Dynamicity and dynamism (evolutivity)
- Diversity and plurality (cohabitation) and, also, dispersion (diffusion), fractality and arrhythmia (assonance/ syncope)
- Connectivity (transversal relationship)
- Mixi(ci)ty (multiplicity), that is, crossbreeding (coexistence/ mixture)
- Interactivity (interchange and/or interaction)
- Reactivity (responsivity, adaptability, opportunity – rather than opportunism) and, at last
- Artificiality (irregularity and singularity as undisciplined decoding)

are the expression of this scenario of crossings and encounters, rather than losses, but also its awareness, of a time that is ultimately made up of agreements and uprootings, reverberation and transfers, surprises, intrigues and intertwinings that we intend to acknowledge here.

- A definitively in-cohesive and heterogeneous time. Unstable, and therefore more restless, i.e., more dynamic; variable and differential.
 - A synchronic and diachronic time; connected and diversified; “on the borderline” between the conventional and the new, the predictable and the surprising, the commonplace and the extraordinary, the contingent and the generic.
- A time of flexible links and discontinuous articulations; of opportune (sometimes opportunistic, i.e. unprejudiced) connections among situations and information.

– Ultimately, an artificial rather than artful time; in that it is mixed, “non-genuine”, “synthetic” and “manipulated”: in short, irregular. But also “unauthorized”.

- A time of cross-bred “encounters” and “hybrid” responses.
- A time of routines, nevertheless, but also of innovation.
- A time for scenarios open to interaction – between diverse (and dispersed) events, between scales and places, between (simultaneous and overlapping) codes and categories – which translates into a loss of “positional” stability and essentiality in this multi-faceted and multi-phased “hyper-scenario” made up of multiple offerings, conflicts and tensions, but also of possible qualitative “recodifications”.

They create a possible compromise with a suddenly multi-faceted milieu that expresses the desire for a generative and innovative, synthesizing and articulating exchange between (the) different layers of a multiplied reality and the possible information derived and processed from it; i.e., an interactive and synthetic – scrutinizing and activating, tuning in and generating, registering and producing – capability of the contemporary device as an operative and relational “formulation” (trajectory or logic): capable of combining examinations of reality and actions on it into new and possible “contracts for negotiation and displacement” at the same time (understanding the term “displacement” as a dynamic movement, but also as a “denaturalization” of old meanings.

This implies an apparent confusion – a disorientation – in our perception and understanding of the milieu in which our culture is inscribed, but it also fosters a change in our “outlook” and in our ability for recognition and orientation, the characteristics of which we will address in the following section.



IV. Fictions

Mark Wigley¹⁰ wrote about how the main challenge in getting lost always lies in our sense of direction; that is why there is a need to (re)construct more effective structures for recognition once the habitual structures have been disconnected from the old codified and “familiar” space they in which they were established.

The changes brought about in the recognition of our own environment suggest an apparent confusion – a disorientation – in our perception and in understanding of the milieu that serves as the framework for our culture. But they also foster a change in our “outlook” and our capabilities for recognition, orientation and representation.

Indeed, if one of the greatest attributes awarded to the figure of the architect lies in the ability to “design” relationships in space, synthetic formulations between the forces of production, the conditions of reality and spatial proposals intended to create a qualitative habitat in keeping with society’s needs and expectations (between the capacity for action and a certain world view), in this sense the ideal of representation (and recognition) takes on a particular importance – in all issues related to architectural space – not only as an expression or recreation – reproduction – of reality, but as a prospective tool with respect to that reality.

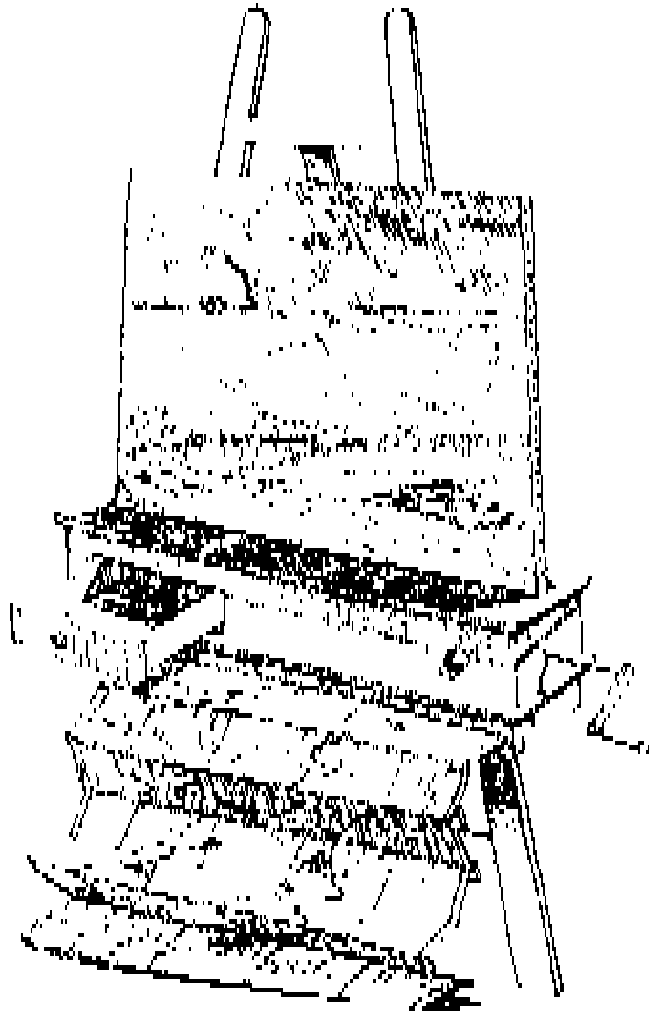
“Representing reality would be the first step in its transformation.”¹¹

This aspect is important because:

“Every system of representation can be attributed a distinct and specific capacity for organizing the world.”¹²

Paraphrasing Peter Eisenmann, the philosopher Francisco Jarauta indicated that:

“If the great fictions that served as the foundation for modernity – representation, reason and history – were no longer useful for



4.15. Territory and landscape, representation and mapping. Illustration from the geography journal *Hérodote* no. 7.

interpreting events in our era, this crisis would lead, today, to the investigation of new conceptual and instrumental processes.”¹³

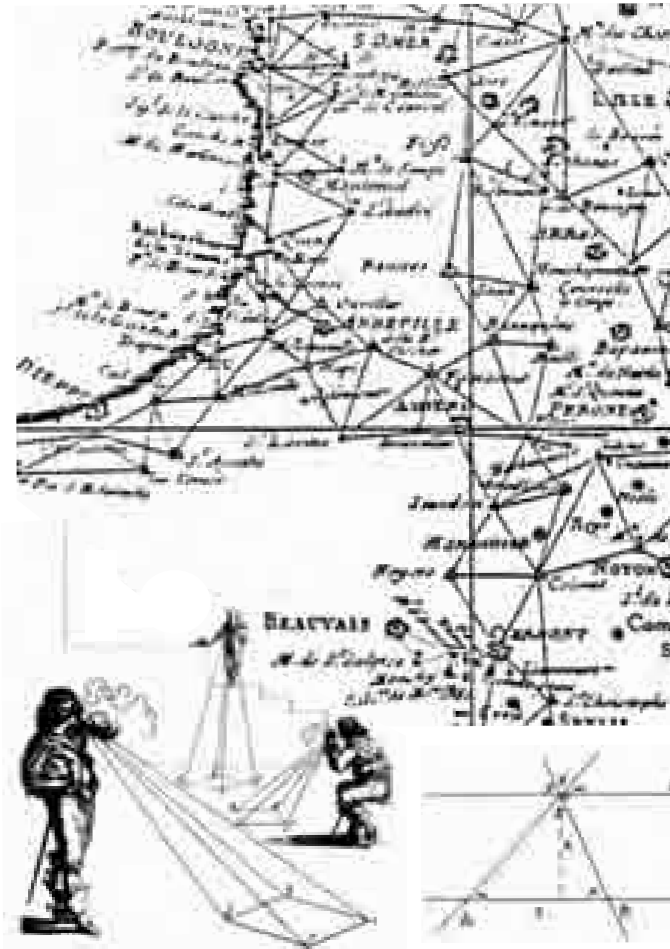
“If the great fictions that served as the foundation for modernity – representation, reason and history – were no longer useful for interpreting events in our era, this crisis would lead, today, to the investigation of new conceptual and instrumental processes.”

If each of those fictions had a fundamental purpose – Representation was meant to provide a form for the idea of meaning (image–language–form); absolute Reason was meant to codify the idea of truth (category–type–order); History was meant to recover the idea of timelessness, perpetuity, of continuous change (memory–understanding–succession) – today, “History” as an absolute reference has fallen away in the face of a “geography”, or even a “geohistory” that is open and non-linear, based on operative data – a landscape of events – in the same way the “Reason”, with a capital R, has given way to (a more versatile and indiscriminate) “strategic and tactical criterion” and, lastly, the idea of “Representation” – as a (re)production or description, as a drawing or a closed-off document – has gradually made way for the idea of “recognition” as a recording or a “map” that is open and synthesizing at the same time: an active exploration based on a less “transcendent” and “traumatic” outlook that is more receptive and demystified, more tolerant and empathetic with respect to reality.¹⁴

Today, we intuit this transfer from what was once a “determinist” cartography (univocal, total, exact and literal in its references, but also in its methods and its delineation) to an increasingly strategic and synthetically “indeterminate” cartography (that is virtually evolving, i.e., more open in its potential and strategic evolutions).

The classical observer and the modern spectator seem to have been replaced by the contemporary explorer.

We will deal with this shift in the following section.



4.16 Abraham BOSSE: *Les perspectiveurs*. An etching from *Manière universelle de M. des Argues pour pratiquer la perspective*, 1648 (manual on perspective). (Both in Xavier COSTA: "Topometries," V.V.A.A: You are Here: Architecture and Information Flows, ed. MACBA, Barcelona 1995).

4.17. Visual proof of Euclid's theorem as a combination of parallel lines, planes and triangulations.

V. The Classical Observer – or Delineator

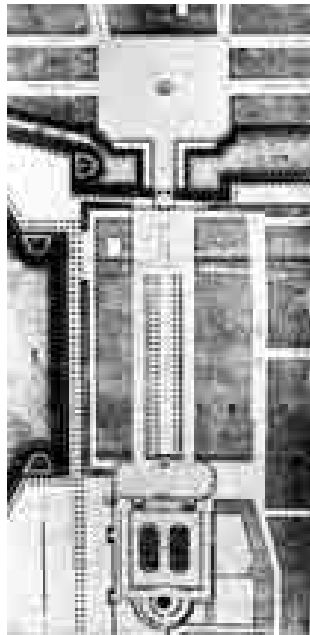
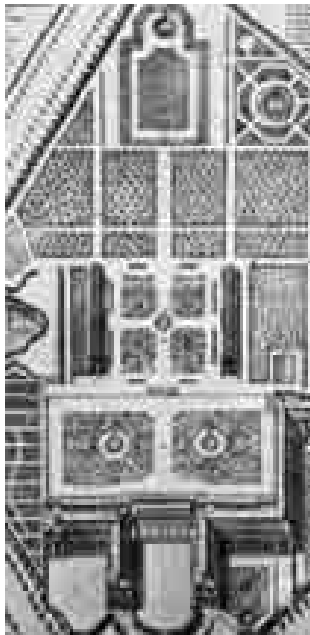
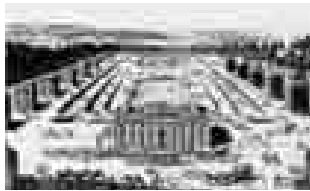
If the ultimate end of representation using perspective – and all of the classic delineation derived from it – was founded on the attempt to (re)construct – or reproduce – space in the most literal way possible – “all” of space – based on a singular, privileged and hierarchized point of view, this effort found its expression in an axial vision and the indexing of a system of fixed markers (established via triangulation and projected on a single two-dimensional plane), thus instrumentalizing Euclidean geometry (with a metric ultimately associated with optical correction) and Cartesian coordinates (a virtual grid of fixed coordinates).

This obsession with proposing an absolute record of space – a “recreation”, in any case, rather than a “re-evaluation” – based on the understanding of a complete (closed-off, literal) image or design – illustrates the fundamental role of Brunelleschi's baptistry panel in terms of providing a “representation” that was subject to the prevalence of vision over a reality understood as a “disclosed” unity (revealed as opposed to “demonstrated”) through its possible (re)composition.¹⁵

The fact that a large portion of Enlightenment cartography – and even that of the immediately pre-modern period – continued participating in the classical visual perspective only indicated the broad reach of a perception that was ultimately symbolized by the so-called camera obscura model, i.e., the technological derivation of Brunelleschi's baptistry panel: the simplification of the complexity of an image (its multiple levels and lines of flight) into a plane that reflects a series of injections, rather than projections.

The use of this optical mechanism fostered the direct use of images projected onto a single plane, i.e., to paraphrase David Hockney, a privileged way of representing the world, and a single way of seeing.

The use of linear perspective or a camera obscura and the grids and triangulations they imply allowed for “portraying” a spatial



reality that was often fleeting by fixing it in a static “pose”, which could then be transformed into a stabilized (and regularized) “reflection” – or recreation – of that reality, i.e., into a compound delineation or a composition.¹⁶

The reality to which classical representation belonged alluded to a unitary and unifying vision, produced “toward” a stable, complete space that could still be measured – observed, formulated and predicted – in an exact and stabilized way; as such, it could be represented using a fixed series of references (triangulated or parallel) intended to “anchor” or “secure” it – to “reveal and demonstrate” that space based on an analogical projection.

The development of classical cartography and its associated parameters (privileged points of view, a system of landmarks, regularized proportions) had a decisive effect on the central characteristics of the visions and urban constructions derived from that compositional conception of space.

Classical space was an absolute space (in that it was singular, analog and ritualized), but it was also symbolic, codified and normativized.

A space that referred back to a totalizing, harmonically singular figuration, i.e., one that was essentially “composed” and “compositional,” trusting in the “permanence” of its meticulous, detailed and nearly literal delineation, based on a “complete” and “completed” – pre-existing or projected – reality that was continuous in its possible evolution, inscribed and described (drafted, “outlined”, “drawn” and “retraced”) in its entirety.

A reality that would nevertheless soon begin to dilute its profiles, fragment and ultimately deceive its own outlines – and designs – and, consequently, the outlook associated therewith.

The development of classical delineation and its associated parameters

4.18. Château de Marly and the Grand Trianon.

4.19. Versailles. Cour d'honneur and l'avenue de Paris.

4.20. *Camera obscura* (engraving).

4.21. Demonstration of perspective (Albrecht Dürer).



4.22. Christian SCHAD: *Sommertie Strasse*, 1916 (recreation)
(V.V.A.A. Visions Urbanes, ed. CCCB & Electa, Madrid 1994)

VI. The Modern Spectator: from the Flâneur to the Planner

The changes that came with the beginning of the Industrial Revolution, and the dramatic transformation of the milieu that resulted, rapidly replaced the outlines of the stable figures and silhouettes with the definition of more fragmented, less exact and less defined scenarios.

Walkers in the industrial area would describe a much less uniform reality – to which they would feel they were fascinated or critical spectators, though it could still be engaged, if not from the central and “framed” vision of the eye, then from the “panoramic” and “off-center” vision of certain, more expanded (and diluted) scenarios.

Scenarios with more blurred silhouettes (though they were still recognizable in their different projections and impressions) which spanned from the atmospheres painted by Hugo, Turner and Monet, or the “foggy” prints of the first photographs in the late 19th century, to the Cubist fragmentations well into the 20th century.¹⁷

From this point of view, we might say that the new modernity involved the exploration of the fragmentation of the old classical unified form.

The advent of photography (and its later development in the form of a sequence of “stills”) contributed to recording this break with the old mimetic recreation – or literal reproduction – of reality and its fragmentation into an infinite multiplication of points of view or framings intended to bring out a new perception of the world that was not only fragmentary but, above all, “relativizing” and “relativist”; a new system where the old central stability of the eye – “toward” space – was replaced by a decentralized “mobile” logic “in” space, negating the classical “privileged” point of view to promote more diachronically displaced and hierarchized models of vision favored by the new means of transportation and which, in fact, led to the –

relativist and universal – planimetry characteristic of modernity. The modern eye, with its constant movement (on foot, on wheels or in the air) through the new scenarios of modernity – reconstituted – or attempted to reconstruct – scenarios (planimetries or delineations) that had already been designed, based on decidedly telescoped experiences, revealing the possibility of recognition that was still deterministic – because it was (pre)determined – in conceptual terms.¹⁸

In the context of this telescoped roaming, the new aerial references for planimetrics allowed for referring events to a hypothetical common framework – a fixed system of references and coordinates – that was still coherent.

The development – and application in military campaigns – of aviation and new tools for aerial reconnaissance, like new “vertical eyes” allowed for advancing this possible idea of planimetrics associated with planning that was derived from a virtual “passing above” – elevated, above ground, objective and removed.

Modernity ended up exacerbating this relative or relativizing notion of “position” or “change in position”; between the discontinuous, objectual, positional experience of the modern pedestrian spectator and the panoramic (globalizing) definition of “planners” (“producers” – or “destroyers” – of “scenarios”).¹⁹

The replacement of the classical observer by the modern spectator – passing by or passing above – only confirmed the transfer from the compact (and cohesive) idea of a hierarchized and absolute, symbolic and ritual, “genuine” and permanent space to a more functional and material vision, a more relative and objectual, planimetric and fragmented vision made up of discontinuous experiences and “(co)relative positions”.

Where modern cartography became more abstract (in that it was formally and functionally “refined”) and was less evocative and symbolic in its outlines, messages and information, nonetheless it was still based on binding figurative planimetries (and frameworks) using fixed positions, although they could be discontinuous; this

fragmented vision still relied on referential delineations: produced by a still fundamentally (com)positional action based on the strict formal and positional referencing of objects – and types – that are “coordinates” in “parallax”. Static in their definition, though virtually dynamic in their perception. Thus, the figure was replaced by the object.



4.23. The first known photograph: Heliography of Le Gras. University of Texas archives.

4.24. Alan Rudolph. *Inquietudes*, 1991. Disorientation in the face of urban change.



These images were taken just three years apart.

The telescoped vision of positional movement and the syncopated recognition of the modern productive metropolis are combined in the *événementielle* (event-based) experience of the industrial-era “passer-by”.



4.25 Kazimierz PODSADECKI: *City, Mill of Life*, collage. 1929 (in V.V.A.A, *Visions urbaines*, ed. CCCB and Electa, Madrid, 1994) // 4.26. Stroboscopic images of Rockefeller Center, 1932. (in Sigfried GIEDION: *Space, Time and Architecture*, ed. Harvard University Press, Cambridge 1941).

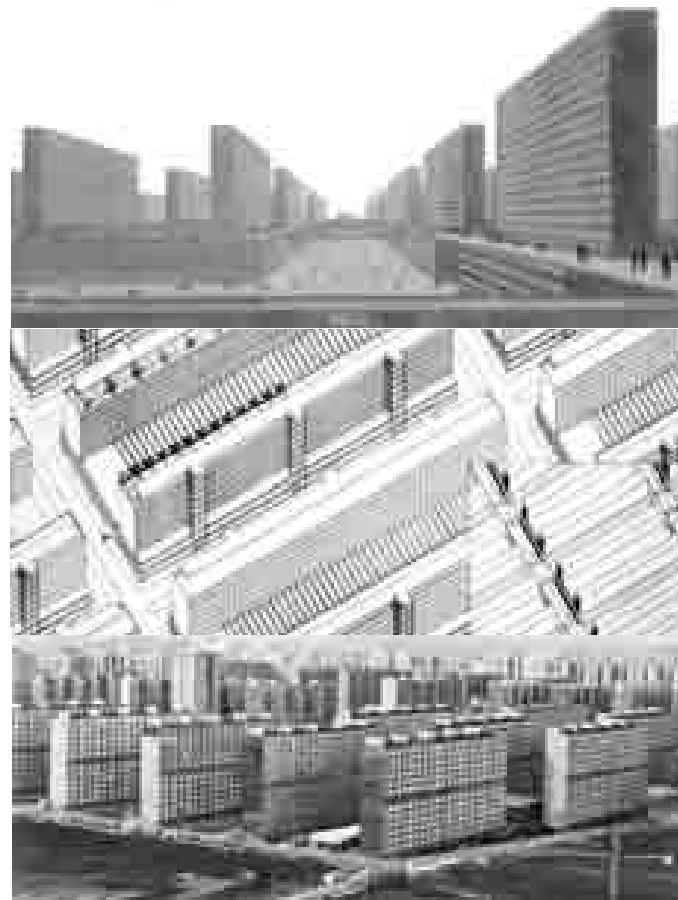


The syncopated telescoping of the metropolitan "spectacle" is combined with the aerial recognition of previously unknown territorial and urban topographies. Birds'-eye views, overviews, where real models and abstract models blend together into possible planimetries organized on the basis of sculptural volumes and rational geometries, which are reiterated to a greater or lesser degree.

4.27. Aerial reconnaissance photographs (1934) and overviews (1936).

(in V.V.A. *A Visions urbanes*, ed. CCCB., Barcelona and Electa, Madrid 1994).

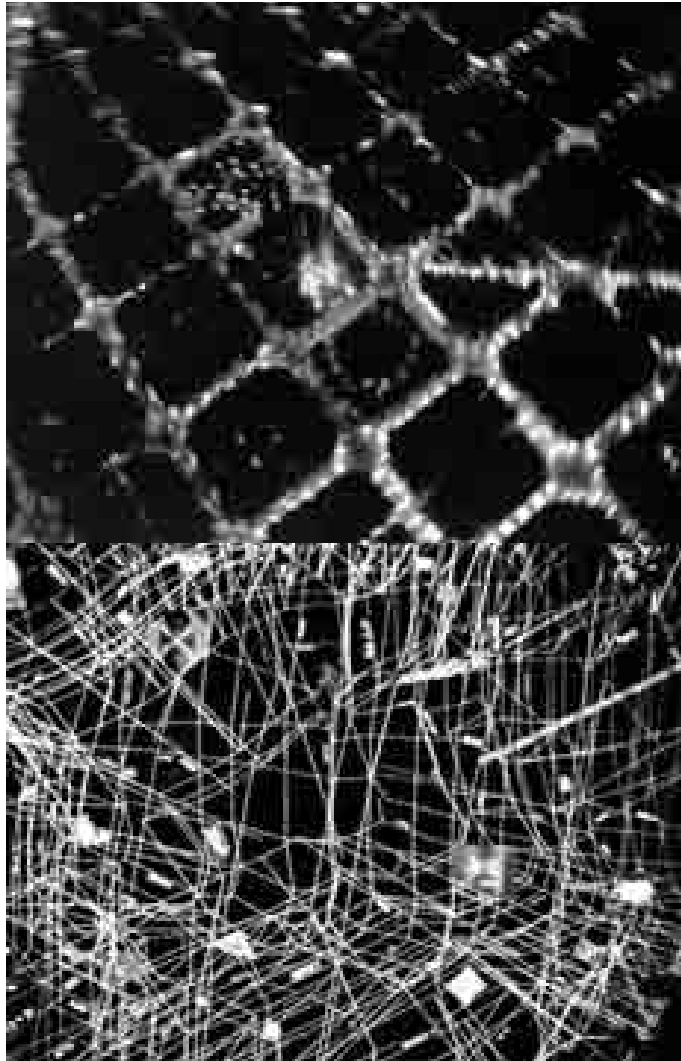
4.28. Barcelona. La Mina industrial zone, 1969. Photomontage.



Rigor and contradiction in modern representation. Aerial vision and *objectual* plasticity, Objectual seriation and apparently isotropy are combined with an axial point of view derived of the perspective tradition that talks about a new epic and productive monumentality. Composition and Position – plan and planning – conjugated in a new type of lay-outs.

4.29. Ludwig HILBERSEIMER: Linear City, Berlin 1924.

4.30. Barcelona. Besòs Sud industrial estate, 1969.



VII. The Contemporary Explorer

The contemporary explorer – navigator, hunter and strategist at the same time – is now faced, however, with a progressively multi-phased space that is plural, complex and heterogeneous in its physical manifestations and in its immaterial derivations.

A multiple space – physical, yet not always physical – that is in a constant situation of “latent change” and a simultaneity between messages on different scales, where – as we have said before – the traditional distinctions between traditional substantive categories – city, nature, territory, etc. – have rapidly lost their traditional meanings, to blend together into progressively mutant and mutable (blended and overlapped) geographies – and scenarios.

These multiplied and undisciplined – increasingly “untameable” – scenarios are physically identified with a structure that is definitively endless and vast in its overall development, and which is more and more “ungraspable” in its entirety – the source for the emergence of a field of projections and simultaneous, intertwining movements than can hardly fit in with the conventional – and static – parameters of traditional perception and representation, or the idea of “synthesis” associated with them.²⁰

The changes that have occurred over the last decades, not only in the physical manifestation of the city, but also in the economy, science, technology and thought, prevent us from continuing to conceive of reality as an “object” or a “figuration” that can be encompassed in its totality, but rather as a flexible – changeable, deformable and ultimately irregular – “field” of relationships, movements and events, which occur simultaneously on different levels and scales, and at different times.

The contemporary city, between the real and the virtual: multi-layered territories. The Cerdà enlargement as a physical elemental grid and the Gibson/Guallart enlargement as a complex and relational hyper-grid.

4.31. Jordi TODO: *Barcelona Cerdà*, 1990 (in V.V.A.A: *Visions urbanes*, ed. CCCB, Barcelona and Electa, Madrid, 1994).

4.32. Vicente GUALLART, *New Media: Metacity. Virtual and Physical Networks*, 1992.

The representation of these systemic and systemized – more than semantic – conditions is no longer a simple question of figuration or delineation; it necessarily refers back to a set of situations, “n-dimensional” data intended to record – like in a virtual multi-layer scanner – the multiple framework of simultaneous relationships and processes – whether obvious or hidden – that take place and overlap within it, and whose form, although it is impossible to define or “determine” exactly, can be understood based on its recognition as a “projective field” of scenarios and possibilities. The representation reality can no longer be the object of a “reproductive” description, or a “productive” planimetry, but rather a “co-productive” exploration. Processing, synthesizing and inducing at the same time.

The classical observer and the modern walker – or planner – were thus replaced by the contemporary explorer: a “tele-focal” and “multi-focal” explorer, who is attuned (as a result of participating in a new system of difference) to the diverse and variable levels – layers and networks – of a reality that is, in turn, made up of multiple, intertwineable and interconnectable realities.²¹

Like in a virtual manipulated field of forces, this explorer is faced with a physical dimension, but also a parallel virtual one, in a “multi-faceted” reality where the orientation of communication and information requires precise selections of those force vectors and instigating data which can be processed with an eye to action.

The exploration of this “territory of simultaneities” demands a more cross-cutting and diagonal, more “hybrid” outlook – in that it is multiple and ambivalent – but also because it couples, joins and combines codes and information.

A necessarily more “eccentric” outlook; characteristic of these new – and strange – explorers who are equipped with a set of tools involving different focuses and lenses, which are polyfocal. A multi-faceted outlook, which is no longer one-way, fixed or stabilizing, or even-“planning”; it is synthesizing, open to multiple

stimuli at once, which may be material and immaterial, figurative and abstract, strategic and aesthetic, precise and evolving. An outlook that is attuned to processes rather than episodes. Exploratory, purposeful, infiltrated, tactical; it is this “alert” outlook – which is à l'affut, on the lookout, but also “lying in wait” – that has the ability to capture – and process the keys that emerge from a reality that is projected at (and from) all scales and dimension. Merely descriptive tools are left behind, then, for new processual tools: the eye, the lens, and new sensors – scanners, radars and interfaces with the ability to recognize and capture what is nearby and what is far away; one place and all places.

4.33. Hybrid outlook, multi-focal outlook, strategic and strobic outlook (in *SD* no. 4, 1995).



Indeed, where the territory was no longer represented using systems based on fixed landmarks, to be replaced by models using aerial photogrammetry, and then satellite images, the new “real” space, paradoxically, was outlined based on the “virtual” space of “information” and “telecommunication”.

The scanspace of sensors, radars and lasers and its digital translation are the best example to demonstrate the move beyond “figural” space (and the associated conception of time) not only as an effect of an abstract and “de-territorialized” logic, but also as a consequence of technological development itself – of a prospective and evolving form of representation.²²

An informational one. A processual one (in terms of “processes” and “processing” data).

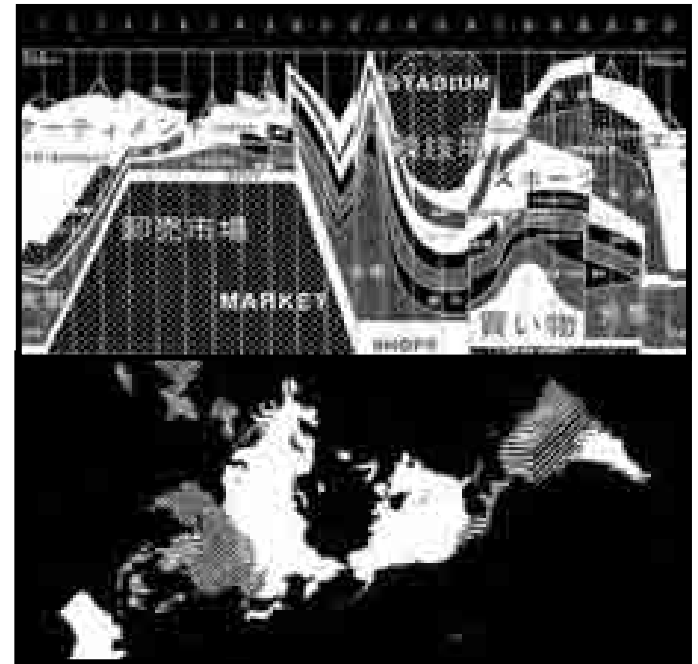
A digital, informational space is an abstract, parametrical and synthetic, mathematical space, but it is also concrete, shapeable and specifiable.

The idea of visualization and representation led, in this new smart cartography, to the “capacity for projection, combination and modification”: a characteristic that is promoted by the progressive sophistication of information and its organization/manipulation associated with new digital tools and related to possible “abstract” (a-figurative) formulations/codifications that can promote effective screening structures (codified formats – grids, lattices, etc.) which allow for “processing” layers of information that are combined and/or selected according to different impact parameters.²³

“Territories of synthesis”, then, related to elemental diagramming (points, lines, surfaces) and processing codes (numbers, colors, icons) which ultimately allow for computerized handling of data using possible “combinatory matrices” intended, finally, to favor the dynamic modeling and/or simulation of various and variable “resolution hypotheses”, according to diversified operating systems for programming and transformation.

Where drawings in traditional maps tended to be identified with a – more or less literal – “composed” whole, in new digital

documents – the famous GIS, for example – graphic elements are no longer literal translations of reality; rather they are graphic “meta-forms” (synthetic maps or diagrams) intended to represent vectors associated with the (infra)structural and topological characteristics of the systems they are dealing with: geoindexations, which are more operative as they are more abstract (and, therefore, more generic, i.e., more open in their virtual compatibility or combinatory potential).²⁴



4.34. O.M.A. Detail of a map as a fluctuating spectrum of activities (Yokohama, 1992).

4.35. It is worth comparing the previous structure with the fragment of Buckminster Fuller's *World Game* for the United States Information Agency and the Montréal World's Fair (1967).

VIII. Open Maps. Evolving Cartographies

The contemporary “explorer” manipulates these new dynamic and evolving technological tools.

The introduction of techniques of movement and time into digital programming allows for working with “abstract syntheses” and “concrete evolutions”, i.e., with evolving processes and dynamic simulations created with interactive variables that can be modified in keeping with a series of prospective “projected” options: variations, deformations, divisions, expansions or movements in a space that is influenced by material information, but also by immaterial connections.

- Records of links, on the one hand, which reveal multi-scalar “data landscapes” that are very different from the ones described by the old systems of representation.
- Concrete simulations, on the other hand, which allow for combining and interconnecting abstract frameworks and particular situations in specific operations based on logics of overlapping and “intersecting” of data, currents, flows and forces. This lets us talk about “field mapping”: maps of “synthetic scenarios” generated by processes of interpolation and extrapolation which allude to a new cross-cutting, multi-layered reading – that creates simultaneity – not of a univocal, fragmented or fixed reality, but of a “multi-faceted”, combinatory and differential reality, whose understanding refers back to this capacity for “synchronizing” criss-crossing levels of information.

The former static figurations of representation make way for virtually dynamic ensembles of evolution related to basic rules of instruction (operational criteria) and possible combinations of movements (dispositional developments) which bring together relationships and actions, programs and activities.

Thus, we no longer refer to evocative figurations, ordering delineations or zoning planimetries, but rather to possible “operative maps”;²⁵ “synthesis maps”, in short, which are no longer based on “complete bodies” (literal descriptions or “compositions”) or on “fragmented structures” (volumetric

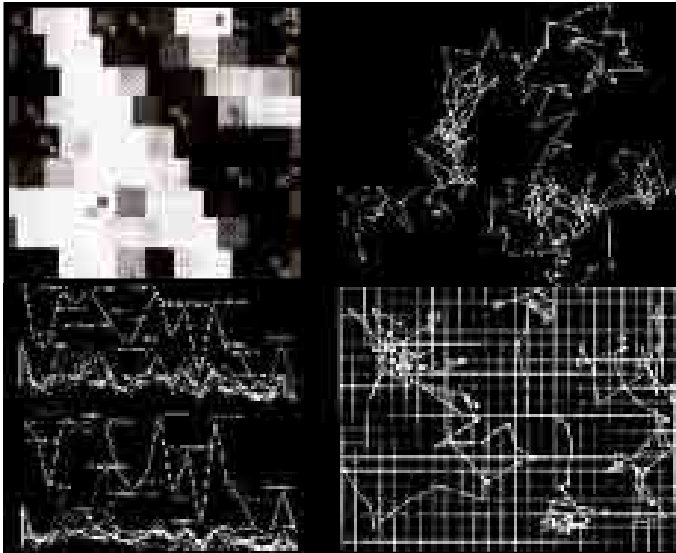
abstractions or “positions”), but rather on “intersecting trajectories” (open processes or “dispositions”) intended to synthesize and purposefully express not “representations” of all of reality, or part of it, but rather strategic “records” of the information layers that are most potentially – and qualitatively – “influential” and the levels of instruction that are most generatively “efficient”.²⁶

Cartographies are thus transformed into intentional purposefulness, both strategic and tactical at the same time, to be used in generating – i.e., selecting, hierarchizing, but above all recognizing and combining, in order to manipulate them and make them operative – layers of information, rather than representation. The aim, then, is not only to produce or to represent “forms” but to formulate (to map out) processes (programs and/or movements): outlines, diagrams, ideograms, or info-grams, patterns and frameworks, matrices or dynamic grids are revealed as “open records” of an itinerary, which like real or virtually evolving trajectories, recognized processed – and the phenomena associated with them – and to formulate (from them) possible intentional criteria (strategies) with the potential to change, to grow and to develop, combining the global abstraction of systematization and the local figuration of contingencies (generative trajectories and decisive maneuvers) in potentially new qualitative orientations.

In this sense, if the idea of analog representation (figurative and literal) associated with classical representation promoted a type of compositional cartography – regulatory and dividing – intended to delineate (and regulate) the limits, the restrains and the “contours” of things – and their physical ties “in” the plane – and if the ideal of typological planning (abstract and determinate) associated with modern (re)production called for a more positional kind of cartography (oriented toward linking and positioning the modern “volume-object”, as a functional mechanism, “above” the plane) this new contemporary diagrammatic vectored synthesis (dynamic, informational and combinatory) requires a new kind of dispositional, compressive and processing cartography, with the potential to process data and mapping strategies and processes at the same time.

Where classical representation outlined figures and modern representation produced objects, contemporary representation maps processes. Evolutionary processes, as opposed to contingent events.

This demonstrates a notable paradox in our present day; in this sense, only a new type of synthetic and systematic abstraction (compressive and expanding, precise and deformable, operative and no longer merely fixed or reductive, as was the case with modern abstraction) can offer a coherent image of the current fuzzy structures into which we have a tendency to unravel.²⁷



Interactive mapping, dynamic simulation models or evolving maps let us synthesize complex, global and local processes into variable trajectories

4.36. Miguel BARAHONA and José BALLESTEROS: maps of *n*-dimensional self-organizing processes for Madrid, 1989 and 1993. Grids and trajectory graphics used (in *Fisuras* no. 5, 1998).
4.37. *Brownian motion* (B. MANDELBROT: *Fractals: Form, Chance and Dimension*, ed. W.H. Freeman & Company, London 1977).

- 1– See JARAUTA, Francisco: "Tensiones del arte y la cultura contemporáneos en las sociedades tardocapitalistas," in V.V.A.A: Otro marco para la creación, ed. Universidad Complutense, Madrid 1994.
- 2– See the definition of the term "Successive-simultaneous" in V.V.A.A: The Metapolis Dictionary of Advanced Architecture, ed. Actar, Barcelona 2003.
- 3– See TRUFFAUT, François: *Le cinema selon Hitchcock*, ed. Robert Laffont, Paris 1996.
- 4– See BRU, Eduard: "La mirada larga," in V.V.A.A: *Nous paysages, Nous territoris*, ed. MACBA, Barcelona 1997.
- 5– See SORIANO, Federico: definition of the term "Naturartificial" in V.V.A.A: The Metapolis Dictionary of Advanced Architecture, ed. Actar, Barcelona 2003.
- 6– See GUALLART, Vicente: "Architecture by Software," in *Quaderns* n° 203, 1995.
- 7– See "Criss-crossing" in V.V.A.A: The Metapolis Dictionary of Advanced Architecture, ed. Actar, Barcelona 2003.
- 8– See SIMEOFORIDIS, Iorgos: "Transitions," in *EUROPAN III*, ed. European, Paris 1994.
- 9– See JIMENEZ, José: *La vida como azar*, ed. Mondadori, Madrid 1989.
- 10– Véase WIGLEY, Mark: "Lost and Found," in COSTA, Xavier, KURGAN, Laura: *You Are Here: Architecture and Information Flows*, ed. MACBA, Barcelona 1995, p. 171.
- 11– See GAUSA, Manuel, GUALLART, Vicente and MULLER, Willy: "Ideas como estrategias, proyectos como mapas," in *MET 01- Barcelona Metápolis*, ed. ACTAR, Barcelona 1985, pg.
- 12– MORALES, José: "Adiós a la metáfora. Manipulaciones de la realidad," V.V.A.A: *Otra mirada*, ed. GG, Barcelona 2010.
- 13– See JARAUTA, Francisco: "Tensiones del arte y la cultura contemporáneas en las sociedades tardocapitalistas," in V.V.A.A: Otro marco para la creación, ed. Editorial Complutense, Madrid 1994, pg. 27.
- 14– See JIMENEZ, José: *La vida como azar. Complejidad de lo moderno*, op. cit. pg. 178.
- 15– See JARAUTA, Francisco: "Cámara oscura," in J. FONTCUBERTA: *Contranatura*, ed. Actar, Barcelona 2001.
- 16– See JARAUTA, Francisco: "Cámara oscura," op. cit.
- 17– See COSTA, Xavier: "Topometries," in COSTA, Xavier and KURGAN, Laura: *You are Here: Architecture and Information Flows*, ed. MACBA, Barcelona 1995.
- 18– See MORALES, José: "Lo figural, la mirada," en *RIZOMA -31/1/1995*.
- 19– See COSTA, Xavier: op. cit.
- 20– See FERNANDEZ GUERRA, Jorge: "Veinte años sin imagen," in 12 notas, no. 1, 1997, pg.5.
- 21– See BALLESTEROS, José and BARAHONDA, Miguel: "La ciudad que no se ve," in *Fisuras* no. 5, 1998.
- 22– See GANDELSONASS, Mario: "The Exurban Observer," in *Quaderns* no. 213, 1996, pg. 152.
- 23– See FARGAS, Josep M. and PAPAIZIAN, Pegor: "Territory and Modeling," in *Quaderns* no. 194, 1992, pg. 90.
- 24– See FARGAS, Jose M. and PAPAIZIAN, Pegor: op. cit, pg. 93.
- 25– "Maps will be territories of representation, simulation or recreation. They will construct, not reproduce. They will be open, connectable in all their dimensions (with the potential to be subject to constant modifications). The value of abstraction, with a generative, evolutionary and productive sense, will be evident in them."
- See PORRAS, F.: "Editorial," *BAU* no. 014, 1996.
- 26– See CASTELLS, Manuel: *The Informational City*, ed. Basil Blackwell, Oxford 1989.
- 27– See FERNANDEZ GUERRA, Juan: op. cit., pg.14.

An aerial, high-angle photograph of a city, likely New York City, showing a dense grid of buildings and streets. The image has a strong blue color cast, giving it a monochromatic, futuristic feel. The perspective is from directly above, looking down on the urban landscape.

Part 3

FORMULATIONS

Order, Form, Organization
Space-Time Information
////////////////////

- 5 PROCESSES: Dynamic Trajectories, Open Patterns
- 6 DISPOSITIONS (ORDER-FORM-ORGANIZATION):
Dynamic Time, Informational Order: <In-Ex> Factors

“Why is geometry often described as ‘cold’ and ‘dry?’ One reason lies in its inability to describe the shape of a cloud, a mountain, a coastline, or a tree. Clouds are not spheres, mountains are not cones, coastlines are not circles, and bark is not smooth, nor does lightning travel in a straight line.”

Benoit MANDELBROT: *The Fractal Geometry of Nature*, WH Freeman and Company, New York 1982.

I. Space-Time Structures

The progressive development of mobility, of communication, of the transportation of information have pushed the contemporary city toward a new kind of self-organization where this ever increasing “freedom of movement” in space – displacement, access and occupation – has ended up resulting in new kinds of artificial *polyconstructions* which, curiously, are not dissimilar to the more “natural” – and unplanned – ones that can be observed in most spontaneous distributions with dynamic configurations. Gaseous turbulences, liquid splatterings, particle deployments, but also spontaneous (or “pseudo-spontaneous”) settlements form some of these “fuzzy” or “irregular” structures – like the structures of cities themselves – preferentially produced as the result of dynamic processes of *space-time* occupation, i.e., based on evolving processes of position (or positioning) and occupation (or distribution) which fluctuate in space.¹

We recognize these complex processes of *interaction*, with significant levels of self-regulation and self-organization, both in more or less stable “settlements” (groupings) and more fleeting “deployments” (distributions): scattered maneuvers, masses of individuals (and crowds), packs and herds, flocks of birds, schools of fish, swarms of bees in motion, the free expansions of gas and water courses, flows of traffic or the generic growth of cities.

Here we are interested in analyzing the geometric characteristics associated with those structures and the “formal” patterns that can be deduced from them: approaching, then, the topological definition of those dynamic trajectories through their most

5 PROCESSES

Dynamic Trajectories, Open Patterns

5.1. Troops of the 82nd Airborne Division in the sky above Nijmegen (Operation Market Garden).

recurrent parameters – and potential characteristics.

With regard to evolving processes of occupation or expansion in space, the study of these phenomena effectively leads to the recognition of constructions and configurations (*distributions* and/or *dispositions*² of elements, understood as a virtual “*space-time ordering*” that is more or less instantaneous or sustained in its evolutions), which are characterized by geometries with generally open and irregular profiles; their analysis allows for recognizing organizations associated with fluctuating, complex structures, undergoing constant change and exchange, which contrast with the static logic of the traditional structures and orders that are defined according to planning parameters or “preformed” components, adapted to the (pre)determined control of a pre-existing “drawing” (outlines and guidelines or lot boundaries and subdivisions).

In most systems that are characterized by dynamic evolution, a snapshot of each of the trajectories in space indicates an impermanent, uncertain situation in a state of latent change, inherent to their expansive and evolving nature.

The terms *deployment* and *unfolding* – sometimes used to describe these phenomena³ – illustrate this more disperse (almost *Deleuzian*)⁴ colonization of space, brought about by a freedom of movement and exchange, where connections are established in ways that do not conform to the prefigured outline – based on geometries that are chiefly of a topological order: deformable and variable, elastic and irregular. These geometries no longer necessarily signify a “composition” (in the traditional sense of the term); rather they refer back to a more elastic and irregular order that ties into an “anti-geometric” organization and occupation of the territory (based on Euclidean parameters).

The aforementioned relationship between this kind of “unfolding” in space and this new type of geometry is associated with

“forms of interconnection” rather than with a global and single understanding of the whole.

With a possible relational system rather than a strictly formal or visual system.

Its configuration – varied and differential – leads to a complex “fabric” of simultaneous trajectories and overlapping interactions generated between local events, in its specific definitions, and (multi)scalar global patterns, in its general evolution.

Every combination of movements appears as the immediate manifestation of a multiple system of *holistic negotiations* between groups and subgroups, in a constant co-participatory exchange: dispositions, positions and/or variable positioning, related to a wide range of spatial combinations and permutations, express this potential fluctuation and this “movement” among multiple bundles of possibilities, which are implicit in the constant processes of interaction that takes place.

The complexity of the system does not necessarily refer back to complex generic rules; rather it tends to be based on relatively simple patterns of position and decision, through successive lateralizations and alterations, disturbances and simultaneities, which give rise to more complex processed structures, precisely because they are more “co-participatory”: more diverse and heterogeneous, because they are more interactive and dispositional.

“Occupying”, “colonizing” or defining a position in space – as José Antonio Sosa⁵ points out – implies an “unlinking” action that is not subject to continuities or pre-existing structures or drawings: an action that is not dissimilar to an expansion, indicating a kind of internal connection that is less physical than an extension (a gas expands, as opposed to extending).

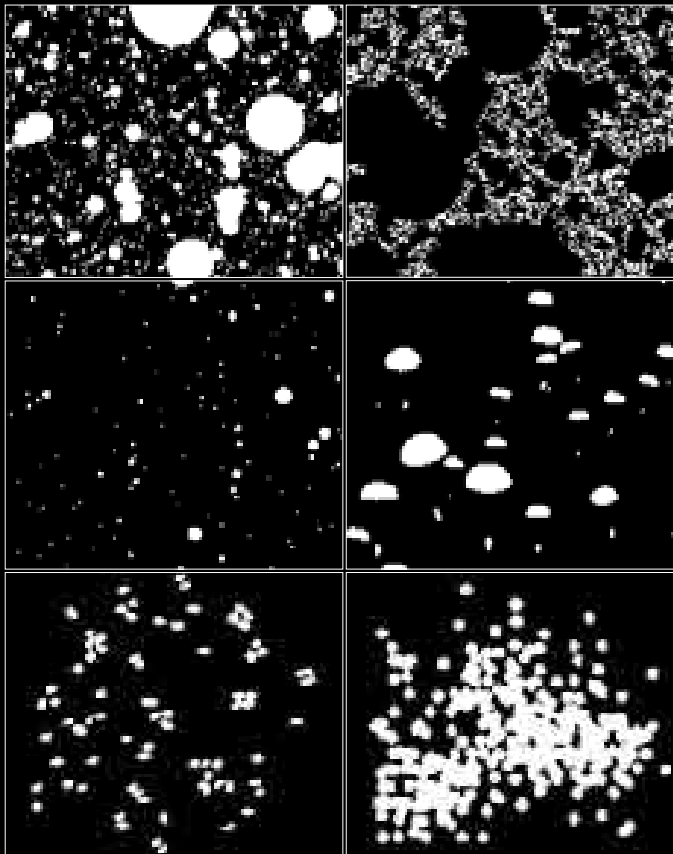
II. Deployments, Dissipations, Dispersions, Distributions and/as Dispositions

The structural deployments studied here are proposed as disperse “distributions”, “dispersions” or “dissipations” that work with irregular rhythm, where “voids”, or separation, takes on just as much importance as “occupation”.

Whether referred to using the term “*dissipations*” (Ben van Berkel / Greg Lynn ⁶); “*distributions*” (Barry Le Va / Stan Allen ⁷) or “*unfolding*” (Deleuze) and “*dispersions*” (Thom, Sosa), in all these cases, the formation of the structures that we aim to highlight here alludes to dynamic processes of distributing densities as well as positional organization and ordering,⁸ based on a local interaction between “individual” movements and events and/in global, *informational* organizations.⁹

In relation to this possible *informational* order, which we intend to acknowledge in spatial and architectural terms in this book, we decided to use the term “disposition” – or “open disposition” – applied to these organizations, despite their special connotations – or precisely because of them.

Whereas the terms “dissipation” and “dispersion” allude to an *essentially* dynamic condition – which is expansive, evolving and explicitly unstable – the term “disposition” refers to a *virtually* dynamic condition – which is unfinished, unconcluded, *implicitly* unstable – although it is instantaneously “positioned” (“disposition” as the open combination of positions); this condition could be revealed by a distributive, stabilized construction, which would nonetheless be virtually evolutionary. The notion of a “dynamic disposition” – or an “open disposition” – in space, and its translation into architectural space, constitutes one of the core focuses of this book. It refers back to an understanding of spatial organization that was called upon to substitute old paradigms that are still being used, based on stable geometries, forms and orders, with new paradigms that are characterized by a more “open” tendency (complexity, irregularity and the non-predetermined combination of actions and events. More *informal* paradigms, because they are more *informational*.



“Dissipations”, “distributions”, “deployments” and/or “dispersions” can be seen as manifestations of dynamic processes of a spatial order, based on interactive phenomena between specific “movements of action” and global “structures of interconnection”.

5.2. Slices of fractal Appenzeller cheese with random holes.

5.3. Slices of fractal Appenzeller cheese with random round holes.

5.4. A constellation as a “fractal structure” (in B. MANDELBROT: *Fractals: Form, Chance and Dimension*).

5.5. Deployment of paratroopers over Monte Cassino.

5.6. Nitrite formation, enlarged 1,000 times (Kultur d. Gegenwart, part III).

5.7. A flock of birds (in *The Berlage Cahiers* no. 5, ed. 010, Rotterdam, 1996).



Examples of dynamic formations and spatial unfolding. In all cases, these "space-time arrangements" show constant processes of "adjustment" and "readjustment" in their evolutions.

5.8. Flocks of birds. Variations on their configuration.



III. Rules and Logics. Polyconstructions

We understand “dispositions” as the dynamic structures of distribution and/or occupation which, despite the apparent impression of irregularity, disorder or arbitrariness that they may transmit, possess – like more self-generated forms that exist in nature – basic generative logics (which are not always linear or morphologically pre-determined) adapted to variable and/or fluctuating rules of form(ul)ation and combination.¹⁰

In most cases, these configurations refer back to “spontaneous” – or apparently spontaneous – processes, which manifest their irregular and fluctuating nature through movements of “concentration” and/or “expansion” interconnected by – real or virtual – channels for movement.

We recognize these processes in different disperse structures which, despite their “jumbled” or “arbitrary” appearance, owe their evolutions – like many other similar and self-generated structures that exist in nature – to “patterns” or “internal protocols” – “nuclear criteria” or “prompting trajectories” – which are ultimately adapted to basic movements of “occupation” or “grouping” (i.e., *concentration*), of “separation” or “spacing” (i.e., *dilatation*) and of movement and access (i.e., of *interconnection* or *articulation*) combined in accordance with “opportunity dynamics” – tactical, variable and fluctuating – that are determined, in turn, by “reactions” to – and in – the medium, leading to secondary phenomena influenced by internal or external events (accidents and distortions, “attractions” or “rejections” and “fluctuations”) whose degree of decisiveness responds to the sphere – and the scale – of action.

Despite the overall irregularity, the individual movements lay down lines and furrows without any formal predetermination.

5.9. Distribution of “floating” stations for washing clothes, Ivory Coast (archive).

IV. Mechanisms of Occupation and Distancing

These processes refer back to possible recursive structures for variable distribution in space, generated using the dynamics of “*positioning-distancing-displacing*” *occupation/grouping-separation/spacing-articulation/access*” which seem to respond, in turn, to elemental (and nearly spontaneous) habits and behaviors that have been widely studied by behavioral anthropologists.

As Edward T. Hall, one of the pioneers in the field, pointed out:¹¹

“In addition to territory that is identified with a particular plot of ground, each animal is surrounded by a series of bubbles or irregularly shaped balloons that serve to maintain proper spacing between individuals...Two of these – flight distance and critical distance – are used when individuals of different species meet; whereas personal distance and social distance can be observed during interactions between members of the same species.”

In the case of settlements, villages or societies that are freely self-organized, these processes of open occupation in/of space – or the territory – can be analyzed in a similar fashion to the structures mentioned previously.

The study of these types of spontaneous and disperse occupations or settlements – beaches or campgrounds, for example – is interesting because, in them, we can detect various examples of processes that are similar to current *pluri-urban* structures.

In relatively undifferentiated or isotropic situations (the occupation of a wide “neutral” surface such as an esplanade or a beach) and in conditions of relative freedom and ease of movement and shifting, we also observe a sort of “basic systematic” for behavior in these configurations, which is remarkably regular or sequential and which – as an abstract pattern – ensures a certain homogeneity in the initial configuration of the whole.

The whole behaves as a generic – systematic – distribution, in keeping with more or less “regular” positioning, spacing and individual routes.

However, this inductive framework is rapidly altered, deformed and distorted (locally and globally) when the density and the level of information and “exchange” in the occupation grows and/or in the face of the appearance (and increase) of other possible *informational* “variables” (contact with topographical features, reduction in the available space, focal points of activity, situations that are “attractors” or “repulsors” etc.).

As a result of increasing the density of exchanges, the critical mass of what can be more or less complementary and/or contradictory information accumulates.

In the beach example, the regularity of the initial occupations ends up being distorted, “expanded” in response to a deterioration in the atmosphere (“noise”, an irritating presence, a smell, an aggressive subsystem, etc.) or altered with respect to an obstacle or to limits (the sea itself, a rock, a sand dune, etc.), while concentrations and groupings (or even crowds) are also encouraged in response to temporary “attractors” – or stimuli.¹²

These groupings and temporary configurations can even lead to structures that are temporarily more stable and compact (with a lesser degree of “openness” and “spreading”) as “defensive” responses to the environment: closed off areas for protection against the wind or the elements, individuals who crowd together for warmth, enclosures that create “boundaries”, etc.

When these conditions diminish – in situations of greater “freedom of movement” – then the discontinuity and individual “shifting” take precedence and influence the overall construction, favoring a more disperse and irregular distribution, in a process that is not dissimilar to what current urban structures have been undergoing in recent decades, where the old defensive “forms” of the historic city have given way to more diffuse multi-centric structures.

As such, we can consider those dispositional agencies to be “elastic territories” generated on different scales.

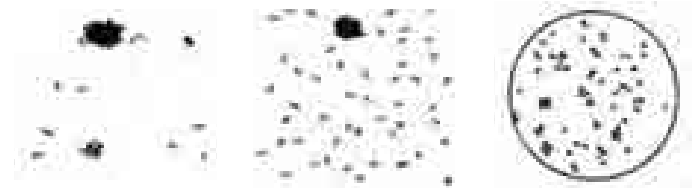
Despite the apparent isometric “mechanics” that seem to reside in these patterns of basic occupation, it is worth pointing out a differential dispositional infrastructure in the different sections that make up the beach – with variable levels of information or “noise” that, in turn, direct and focus the generic parent/pattern logic corresponding to the movements produced there, which fixes them in different situations (and dispositions) with different degrees of density and occupation, distancing and itinerancy. The sea, the coast, the “second row”, the awnings, the in-between “no-man’s land”, the playing areas to the rear, the parking lot and services, the highway, etc. are not “strict zoning areas”; rather they are potential “scenarios” on a virtual programmatic “map” that is spontaneous and “regulated”, intended to favor undifferentiated spaces for flexible mixed uses, with variable density, that express degrees of irregular and fluctuating occupation according to the different interactions between information and dispositions (uses, programs, locations, conditions, etc).

This interaction between individual elements (which are distributed informally, i.e., free from formal or strictly disciplined criteria), dispositional information and possible support (infra) structures “forms” a wide range of irregular combinations that create compact groups, isolated presences, small-scale expansions, large-scale voids, etc.

Between them, we can discern channels for pathways (or furrows) that are temporarily stable or just barely “instantaneous”, destined to transform the “beach” into a topologically elastic and deformable territory, which changes and is disturbed like a dynamic “field” according to the different accumulated levels of local and global interaction that we can recognize within it.

The work that has been done by physicists and computer scientists throughout the last decade has tried to “profile” most of the processes of interaction that govern the behavior of these configurations.

The key to group movement lies in the elastic network of reactions, links and virtual interconnections that are established between each individual and his or her neighbors.¹³



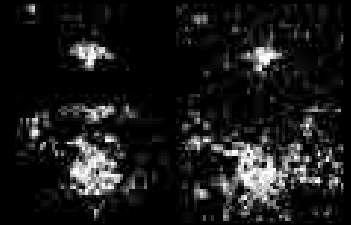
5.10. An isotropic distribution on a beach, characterized by a meshed and markedly regular spacing between “neighbors”.

The study of settlements, campgrounds and other processes of space-time occupation – like on a beach – allows for analyzing similar settlements and distributions where “patterns” can be detected that reveal a certain systemization in the movements. Whereas in cases of defense, protection or a limitation of movements – in the face of a threat or an exterior inclemency – these groups tend to “crowd together” in closed off areas, when the conditions favor more freedom of movement and an increase in mobility, the subsequent unfolding leads to a wide range of dispositions that relate to possible matrices involving combinations of positioning, spacing and itinerancy.



Bands – or series– of “dispositions/ occupation” on a beach and distributions of variable density and interactin variables between individuals in different spontaneous structures of space-time occupation – or settlement.

5.11. Actar Arquitectura: Dispositive frameworks between individual elements on a Japanese beach. CRAFT Project, 2001.



5.12. Infographic simulation of the growth process in Berlin from the 17th century to the end of the 20th (in Hernán MAKSE, Shlomo HAVLIN and Eugene STANLEY, University of Boston)

5.13 and 5.14 Japanese swimming pools. Every hour, the sound of a whistle invites hundreds of bathers to exit the water to confirm whether there have been any incidents. The crowd packs into marked areas that seem to recover their former outlines. For a few short minutes, the illusion of a static, compact and cohesive order, based on pure forms, in regular structures and enclosures, seems within reach.

Stable geometries, closed off perimeters – and limits – refer to entities which are, in turn, limited – or restricted – in their movements. Fixed and anchored in their positions.

After five minutes the illusion is broken. The blow of another whistle announces the “break ranks” which leads to a new distribution of individual actions in space, responding to innumerable stimuli, demands and circumstances. The water, its depth, shade, surfaces, relationships, movements and spacing, etc. imply information or stimuli – which may be stable or variable – that constantly modify the whole. Freedom of movement and the multiplication of exchanges promote the appearance of dynamic – open – structures based on the irregular dispersion of specific events: local trajectories and global configurations are combined in processes of “positioning/spacing/accessing” based in combinations between

“occupations/separations/articulations”, “concentrations (masses)/dilatations (gaps)/ interconnections (paths)” or “points(volume)/ surfaces/lines”.

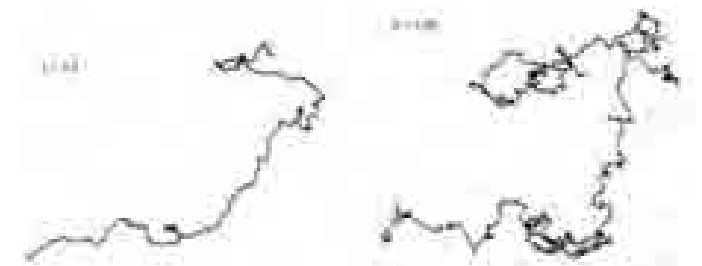


Present-day computer programs allow for representing the dynamic movement of virtual groups of individuals [boids – a fusion of “bird” and “droid”], which are programmed with instructions that lead each component to react in response to the conditions generated in its immediate surroundings. Each boid tries to match its speed to the average speed of others within its local sphere; it moves towards the center of the mass of this group; and avoids collisions with others.

The group behavior emerges from local interactions [...] with phase transitions that imply a certain “consciousness of community” or “common criteria” on the part of the elements that make it up. These research processes also include “noise”, i.e., randomness, imitating the way certain cells “wander” or “drift” without a clear purpose.

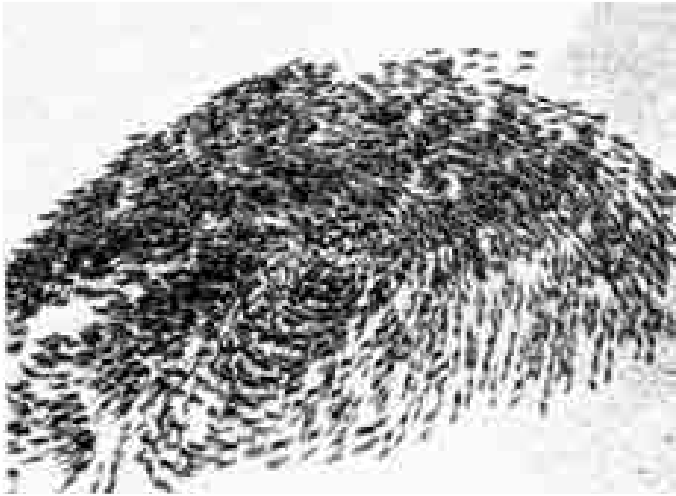
Under certain conditions, the individuals either crowd together in groups, or they tend to move more freely: with lower noise levels – less information – most individuals tend to line up; when there is more noise, they tend to move more freely, at random, without apparent signs of “collective coherence.”

In this way, successive *dis-isotropies* are created in these processes (and, therefore, structures which are increasingly multi-faceted) due to the accumulation of different movements and energies of “attraction-rejection-fluctuation”, which can be associated with the processes described earlier and generated in opposing situations.¹⁴



5.15. A herd in a pseudo-linear movement.

5.16 Fractional Brown Trails (in Benoît MANDELBROT: *The Fractal Geometry of Nature*, ed. W.H. Freeman and Company, New York 1983).

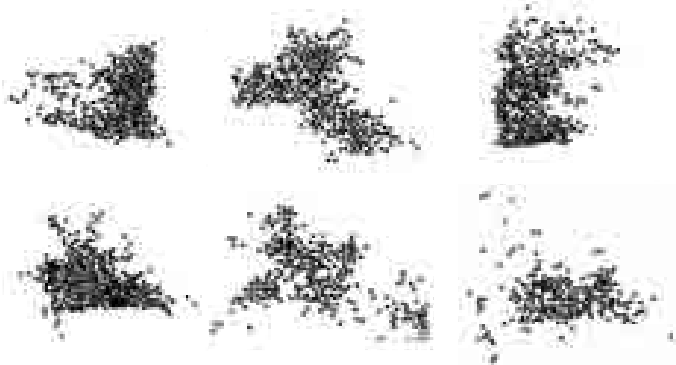


5.17. Reindeer herd reacting to helicopter overhead.

5.18. Barry Le Va: The motion of a flock of birds, 1966-67 (in Stan ALLEN:

"Distributions, Combinations, Fields," *The Berlage Cahiers* no. 5, ed. 010, Rotterdam, 1996).

5.19. Schools of fish: a fluctuating construction subject to process of concentration, expansion and virtual *inter-relation* (in *La Vanguardia Magazine*, August 2, 2003).



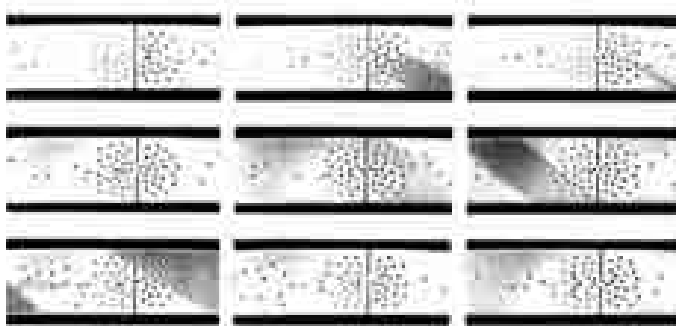
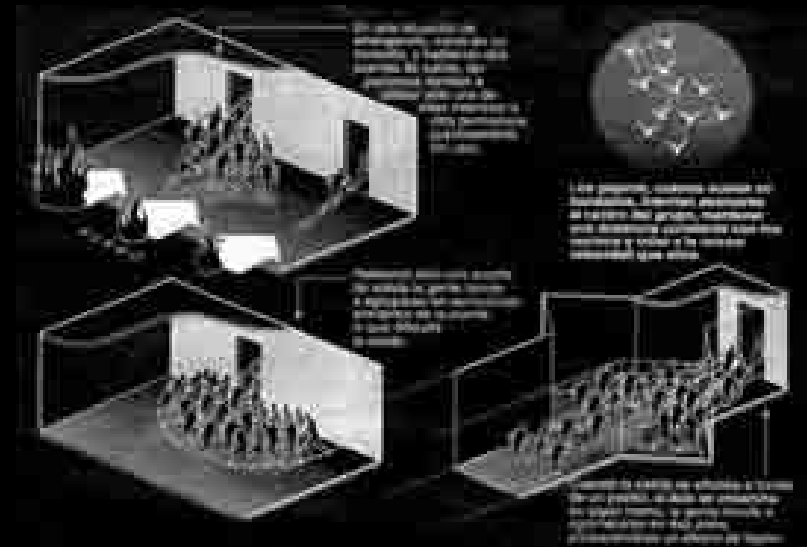
Indeed, most multiple masses (crowds, flocks, herds, schools of fish, *foules* – or crowds – and also cities) show fluctuating dynamics that are produced by complex processes, which are subject to behaviors that are difficult to predict.

Stan Allen – quoting Elias Canetti's well-known *Crowds and Power* – proposed a basic taxonomy in reference to "open and closed crowds, rhythmic and stagnating crowds, and slow and quick crowds".¹⁵

To paraphrase Canetti, we might recognize certain primary attributes in those structures (occupations, distributions or crowds): they always tend to "develop" and "grow" and, though they initially settle into a certain degree of "isotropy" ("non-hierarchical equality"), in the long term they end up showing strong "discontinuous densities".

Crowds, swarms, flocks, dynamic dispositions in short, operate as dynamic fields of forces, on the limits of control (although a certain degree of operative directionality and vectorization can be intuited in them – an underlying "dispositional" logic). These grouping react to the influence of their surroundings and, under the effects of the medium, (self-)organize themselves in a markedly spontaneous manner, through basic rules that have the potential to evolve toward more complex and heterogeneous structural processes as their capacity to merge – and combine – information increases.

If greater density of occupation generates centers of attraction or focal points of "activity", multiple secondary accumulations can also be detected, which present their own movement as attractors, giving rise to irregular structures, which are also always adapted to combinatory patterns "*fullness-emptiness-link*", "*concentration-expansion-(inter)connection*" that are likewise present in current contemporary metropolitan structures.



5.20. and 5.21. Distribution maps in dynamic systems.

Movements by a group of people in front of a door: two groups try to cross the threshold in opposite directions. The initial situation is an impasse. Some individuals manage to cross to the other side. At an indeterminate moment the symmetry is broken, leading to the temporary formation of one main track and other secondary ones (in *Arch* + no. 121, 1994).

5.22. Schematic of collective behavior in crowds. Interactive models (Source: Carmen Trejo/ *El País* in *El País*, April 25, 2000).

5.23. Demonstration in defense of the Statute of Autonomy, Barcelona, 1932 (*La Vanguardia*, December 25/26, 2001).





A study of the irregular structure of most primitive settlements can help us get closer to the evolution of certain spontaneous systems of topological evolution.

5.24, 5.25 and 5.26. Aerial view of an African village ("Air Survey, Frankfurt/Main") and a comparison with the occupation structure of an elastic surface (in *Arch+* no. 121, 1994).

V. Distributions, Occupations, Spontaneous Settlements

Primitive villages and temporary nomadic settlements – caravans, villages or towns – also imply process of exchange and distribution in space generated by free movements of occupation in accordance with systems of movements and access produced in an available surrounding and often based on frameworks of "pedestrian routes" that are not very different from, for example, the ones that govern the phenomena of occupation generated on a beach.

The research undertaken by the urban anthropologist Sybille Becker¹⁶ are revealing in this sense:

"The complexity of the forms of spontaneous non-planned settlements, which can be seen in aerial views, in no case transmits the impression of disorder or randomness. They seem to possess generic properties, which can lead us to deduce that, despite their irregular morphology, those settlements follow a principle of spatial order that responds to basic structural laws."

The study of these non-planned and disperse occupations or settlements – beaches or campgrounds are paradigmatic examples of these kinds of self-organized structures, contrasted with other types of more "closed off" organizations – because various processes of *poly-focalization* and *dis-isotropy* can be detected in them, which demonstrate this kind of topological and fluctuating self-organization – not too different from the processes that govern current urban expansions, where the processes of occupation are derived from the options for accessing a free open area and from the direct parameters of *use/facility*, *interest/mobility*, and *stimulus/demand* associated with them.

The key to these structures lies in the varied network of reactions, links and interconnections – real and virtual – that are established between each of the movements in their mutual combination.

In these "agencies", the episodic "configuration" of the structure varies, but its inherent topological properties – and/or infrastructural patterns – remain.

VI. Projections: Predictions and Simulations

The development of a road network, the appearance of a spontaneous settlement process, individual and collective behavior within a global movement of spatial flow and, finally, the growth model for an urban agglomeration constitute complex evolving constructions that are adapted to dynamic processes of space-time definition, the characteristics of which have been studied in various fields of science and which can be approached using various models of analogy and simulation.¹⁷

In this case, the models are also called on to recognize, anticipate and/or “map” a multiple (and not always compliant) reality. In order to understand it, we need hypotheses similar to the “theories of structural generation” – among others, the so-called “synergy models” – that are capable of tackling processes of *self-organization* in complex systems made up of different units of an inferior rank (“subsystems” that are independent and interdependent at the same time.)

The study of those processes allows for generating possible “projections” and dynamic “simulations” that, in addition to the physical properties of the space being analyzed, include different conditions of change with respect to an unexpected event (“disturbances in the initial inertia”): for example, what occurs as a result of the sudden incursion of an element that is alien to the system.¹⁸

The simulation of those processes ultimately allows for carrying out an approximation of the particular evolution of many of the specific agents (the dynamics of flow, occupation, activity, etc.) which have an impact on this new territorialized space marked by the dynamic and *informational* phenomena that we intend to describe here, according to abstract – generic – systems that are shaped, altered and distorted with respect to the consecutive specific variations of the initial conditions.¹⁹



5.27. and 5.28. Aerial view of a non-planned settlement (a suburb in Soweto, South Africa) and the plan for a self-organized neighborhood in Mexico City.

VII. Spectrum Associations: Dynamic Simulations

What do we put so much emphasis on the structural and geometric dimension of the open dispositions we have described here?

Why this determination in continuing to relate their morphological patterns with the structures and geometries of the contemporary multi-city.

Why this interest in associated chaotic spasm, asymmetrical fluctuations, irregular expansions or organic rhizomes similar to the ones that correspond to urban spatterings?

Because they are all examples of *space-time* dynamic processes that are open, disperse and unequal and that, nonetheless, seem to share noticeably analog formative spectra (and aspects): possible patterns of recurrence between them and among their different “*constructions/combinations/configurations*”.

We have indicated how, as societies and the urban structures associated with them have increased their freedom of movement and their capacity for exchanging information – overcoming localized restrictions and limitations – they have also tended to increase their dynamic, changeable and irregular nature. A condition they always had despite the fact that, for years, they displayed a lesser degree of entropy, i.e., a slower and more uniform (more homogeneous) state of transformation which, ultimately, results in a greater appearance of geometric regularity and stability.

However, the accelerated dynamic nature that seems to characterize the current evolution of the city also increases its apparent level of internal polygraphism and polyphony; this (“poly-”) condition (heterogeneity) that is in keeping with a geometric definition that is more progressively polyhedral and polymorphic, polyfaceted and polynuclear, i.e., more diverse and diversified, more discontinuous and disjunctive. Differential. Evidently, the *information processes* that define the dynamic distributions of schools of fish, flocks, herds, crowds, etc. would not be the same – or, at least, they would not show the same degree of diversity and complexity – as the ones that govern

cities themselves.

They are more complex because they combine larger processes of interchange and higher levels of information, although ultimately their unfolding can all be understood (in certain “B/W”, black and white, binary spectra) as the result of multiple individual “summaries” that are “grouped/groupable” into more or less *compact* focal points: groups and subgroups of density and variable granulometry, which appear as “stains” or “clumps” of concentrated and “singularized” events.

In the investigation of the topological characteristics of most of the structures of occupation and settlement that interest us – non-planned or semi-spontaneous, we can see how these “constructions” essentially refer back to series of trajectories that have been generated, as we indicated before, between processes of occupation/grouping (i.e., of concentration and densification), distancing/spacing (expansion and separation) and flow/access (connection and itineraries) adapted to different dynamics of opportunity and fluctuation.

It is a complex range of combinatory processes between “fullness”, “emptiness” and “links” (or “articulations”) that, in turn, refer back to those other overlapping, or chained together, processes of *attraction, rejection, and fluctuation*; (i.e., between fullness, emptiness and links again) or, more abstractly – as proposed by Stan Allen²⁰ – between *points (volumes), surfaces and lines*, or ultimately between *layers, backgrounds/fade-outs and networks*, which we also recognize – as a basic framework – in present-day metropolitan structures.

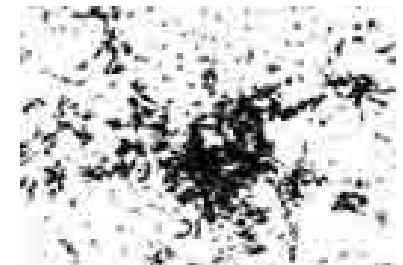
In the case of the contemporary city, we have seen how, despite its irregularity and its apparent “singularity”, its behavior and its structures ultimately reproduce recurring models of development that are also similar to those fluctuating phenomena of *occupation, grouping and/or settlement* that can be associated with the generic epitomes of the contemporary metropolis. Concentrations (volumes, masses, i.e. *densifying* processes) / dilatations (surfaces, gaps, i.e. *spinging* processes-) / (inter)

connections (lines, paths, i.e. *furrowing* processes)
 Buildings/landscapes/infrastructures
 Layers/backgrounds/networks
 Fullness/emptiness/linked-ness

This basic synthetic descriptive elements are not much different from those that allowed for "x-raying" the city, and which we have presented in previous sections.

The study of these configurations, as an analysis intended to investigate the properties of certain fundamentally elastic geometries, allows for taking into account possible recursive "projections" between "topologically equivalent" figures, derived from one another as a result of bending or stretching their very "relationship matrices".

This hypothetical "art of connections" – as topology itself has been called on occasion – could be extended not only to the forces that act on the structures themselves, but also to the different overlapping "connections" that occur between them and other "superior" or "inferior" structures.

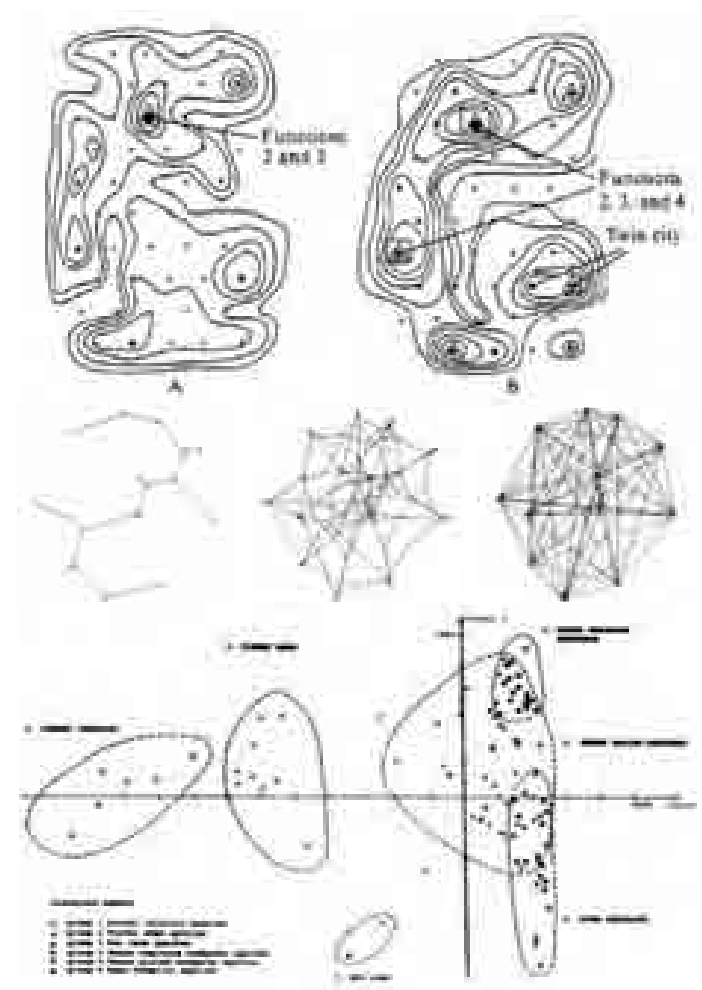


5.29. Dynamic patterns of urban growth using abstract modeling (in Michael BATTY: "Sobre el crecimiento de la ciudad," *Fisuras* no. 5, 1997 based on the text "The Fractal City," *A.D.* no. 9/10, vol. 67, 1997).

5.30. Self-organization and interaction in dynamic simulation models (*Arch+* no. 121, 1994).

Through precise simulations and abstractions, the “theoretical-structural” application of so-called force models (or tension models) allows for analogically and systematically mapping not only the structural “genetics” of most of the distributions we are concerned with here, but also metropolitan agglomerations themselves, thus confirming a whole series of properties and non-linear processes – which tend not to be accounted for in the typified vision of traditional formal city planning – that refer back, as we have stated before, to dynamic patterns of “interaction” between multiple independent and individual events. Much of the “modeling” related with physical “network” patterns present ambiguous links with orders that are subject to a “quasi-fractal” definition, in that their properties, on different scales (large scale and medium scale), are noticeably recurring and that the scope of the successive iterations that affect those properties seem to progressively transfer the effects of local actions onto the global structures, thus increasing the different levels of impact,²¹ combining topological aspects and fractal aspects in an intimately interwoven way.

From a geometric point of view, the relational logic that is implicit in the “(infra)structural matrix” – whether virtual or real – of links and itineraries that define those structures is what allows them to ensure a flexible order in those dispositions, by establishing the basic “operating principle” of the system, i.e., that of dis-dense (discontinuously dense) interconnections, created without a pre-established “outline”: the idea of a network – or a grid – allows for moving beyond the old idea of formal continuity, combining this irregular appearance of a “fracture” (or “disjunction”) between elements with a certain idea of a global construction – or configuration – based on the internal connections: a condition of a potential “flexible adaptation” (a relational adaptation more than a figurative one) which lets us combine (local) “demands” and (global) “logics”: indetermination and, at the same time, “control” (or improved organization).²²



5.31. Field dynamics and fluctuations in an evolving medium (*The Berlage Cahiers* no. 5, 1996).

5.32. Primitive village, Sokota (Africa). Diagrams of routes, connection grids, intersection nodes and main accesses in a matrix structures and radiolarian structures (in *Arch+* no.121, 1994.)

5.33. Diagrams of porosity and connectivity in evolving matrices according to Richard T.T. Forman.

VIII. Open Geometries and Fractality

Fuzzy boundaries, spiral or rhizomatic structures, “encircled” “packed” or “fractured” natural formations, unfolding, fissures and undulations or “self-similar” variations subject to successive scalar recursiveness can be contemplated today in terms of a new geometry of form that displays intrinsic connections with a new science of complexity.

The models used by scientists to define these formations are similar to the irregular nature of growth patterns that branch off in the city, and which refer back to increasingly irregular and dendritic geometries, characteristic of evolving structures that are undergoing change, exchange and mutation.

Polymorphic geometries – in that they are polyhedral and polycentric – of complex evolutions characterized by silhouettes that are dendritic, embedded or cut out, which a noticeably rhizomatic or clustered configuration.

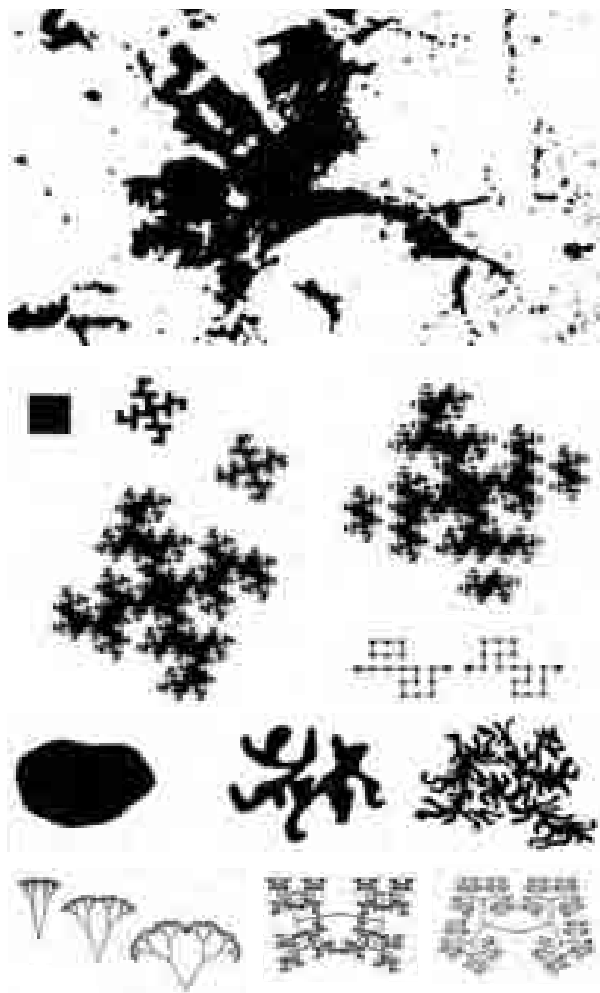
Geometries that are for the most part differential, which effectively adapt to the basic characteristics of the dynamic dispositions we are concerned with here, and which respond to *recurring patterns* (R.P.) of *complexity* and *multiplicity*, *mutability* and *evolutivity*, *combinability* and *disjunctive discontinuity*, *sequentiality* and *matrix-ality*, *flexibility* and *(potential) mixicity*, and obviously of *singularity*, i.e., to a more *open* conception of form, in close connection with a possible, more *irregular* – or *fractal* – definition, that is characteristic of the configurations associated therewith.

The “intermittent” and “inconstant”, spread out or segmented, i.e., “disjunctive” manifestation of most of the evolving formations that have been analyzed up to now refers back to this progressively fractalized – fragmented, fractured and/or fractioned – nature that lies at the foundation of the term “fractal”.

5.34. Andreas Gursky, photographer: distribution of deck chairs around a swimming pool. Tenerife, 1987.

5.35. London spectrum of fractal growth (in M. BATTY: “The Fractal City,” A.D. no. 9/10, vol. 67, 1997).





5.36. Using Brownian curves ("coastlines" or "chains") lets us work with trajectories that are topological and fractal at the same time.

5.37. Rhizomatic structures: broccoli and magnolias (in B. MANDELBROT: *The Fractal Geometry of Nature*, ed. W.H. Freeman and Co., 1982).

An implicitly "unresolved", expansive and dispersive, extended and whirled, condition that indicates its own dynamic drive and which seems to suggest (not only in each evolving process found in nature, but also in each "*space-time*" process associated therewith) this possible *asymmetrical, cross-cutting, a-scalar*, and ultimately *open* (in that it is *informational*) order of fractals.

Beyond any hypothetical formal parallelism, the greatest interest in these geometries lies in their incomplete morphology, characteristic of a process in progress, and their very constitution – internal, multi-scalar and recursive – which is adapted to the strange condition of transfer generated between different combinations and degrees of emergence ("*emptiness-fullness-linkedness*", "*positioning-distancing-displacing*", "*occupation-separation-articulation*", "*point(volume)-surface-line*").

These are the two main characteristics of fractals:

"recursiveness" between different scales and "distributive complexity" proposed through constant generative processes of action/retroaction intended to combine the inductive frameworks in infinite rings (loops, folds, spirals and fluctuations or oscillations of movement).²³

The process of fractal geometry display "reverberating" structures: any tiny detail possesses evidence of the whole and can, like genetic information, help to generate and (re)configure a certain ideal of the whole.

This *interscalar* property, of cross-cutting reverberation, appears closely linked with the notions of "reproduction" and "recursiveness" (that latter is better adapted to the parameters of the work were are dealing with here, in that it suggests a possible scalar "transfer" or "hand-off" – with a large degree of structural "resonance" or "empathy", but also with a broad level of formal variation – as opposed to a strict "morphological analogy".

IX. Strange Attractors and Figures of Synthesis

The notion of “recursiveness” – more so than “self-similarity” – seems to effectively express this “induction criteria” or “nuclear instruction” in and of the system.

In fact, while by definition the reproduction of most dynamic systems refers to fluctuating and uncertain – indeterminate – developments, their movements – given certain conditions – can often be condensed and/or compressed using certain synthetic figures – or *strange attractors* – which, like diagrammatic, inductive and *generative* trajectories (called “initiators” by Mandelbrot), also respond to this *pseudo-random* condition (both indeterminate and determinate at the same time) inherent in configurations with an essentially evolving order.²⁴

Most complex, open and irregular, dynamic dispositions can, thus, effectively refer back to certain codes or patterns of “a-scalar transfer” as possible abstractions of synthesis and representation.

This information or basic instructions (strategic criteria, nuclear logics or flexible instructions) can be synthesized into possible formulations or evolutionary horizons that, in no way, represent “all” possible movements; rather they compress and condense them – synthesizing them – into *maps of synthesis* or *diagrammatic formulations*, in the form of *generative and evolutionary codes*, called upon to adjust, transform and, definitively, to change.

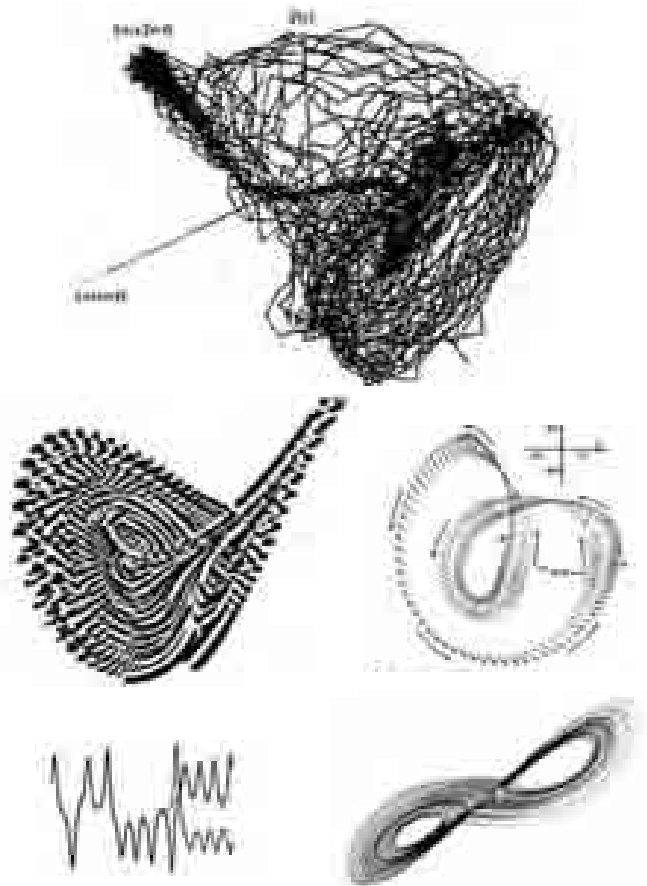
The different trajectories in the system refer back to the basic trajectories, while they are differentiated from them at the same time.

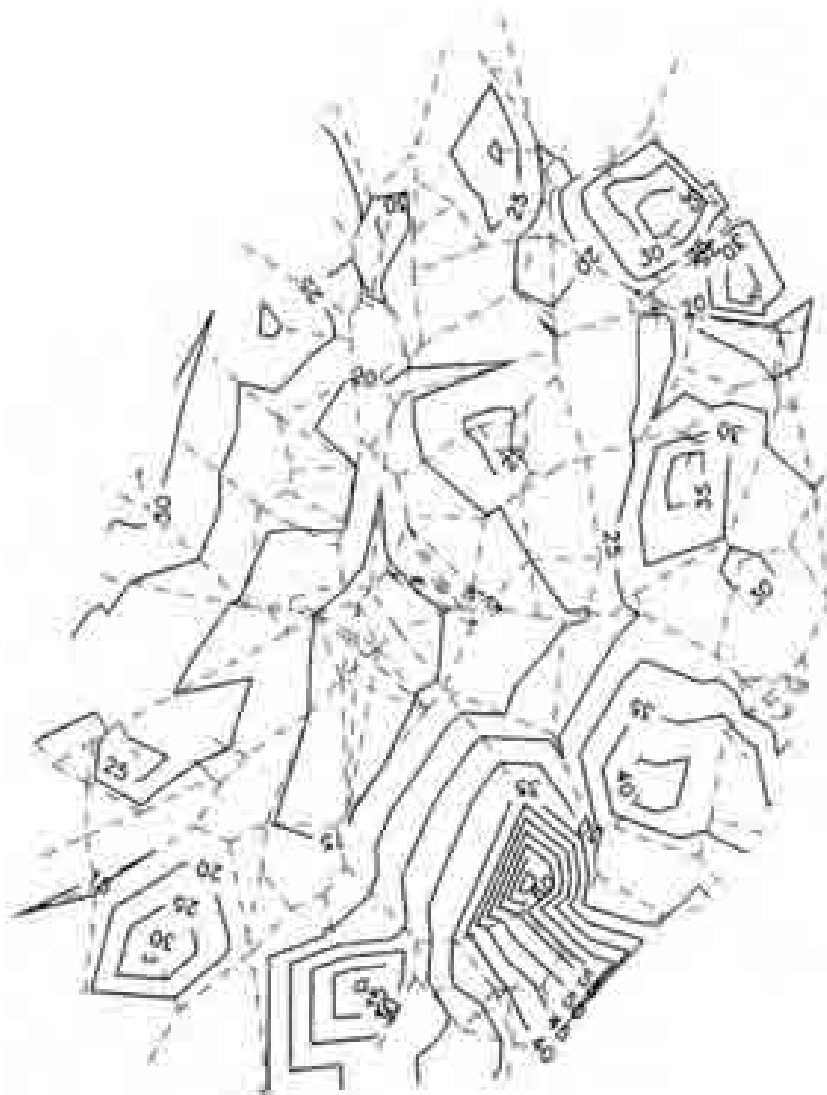
As such, we observe a hypothetical degree of transfer (one motif associated with another) between the structures and a possible unique definition within each of them at the same time.²⁵

Despite the apparent irregularity and overall indiscipline that characterized the multiplicity of specific trajectories defined by the open structures we focus on here, we can observe a “seed” in them – which is an “attractor” and a “stimulus” at the same time – that allows for diagramming the movements in certain “horizons of consensus” or “trajectories of synthesis”.

5.38. Periodic flow in a field of fluctuating trajectories. Attractor reconstructed using deceleration methods // 5.39 Lorenz attractor // Moebius attractor or loop //

5.41. Computation Lorenz diagrams. Abstract curve and reconstruction of trajectories (in SAUNDERS: “Non-linearity...”, A.D. 9/10, vol. 67, 1997).





X. Recurring Parameters (R.P.): Partial Summary

Most of the considerations we have developed up to this point allow for recognizing, in most of the structures that have concerned us, a certain “idea” of order and a certain idea of “form” that are definitively “open”, the direct translation of the *recurring parameters* that identify the constructions and organizations associated with them, whose “instantaneous image” suggests a virtual “state of latency”, a stand-by derived from their condition as a “process in process”.

- 1– *Complexity* (factor of multiplicity)
- 2– *Mutability* (factor of change)
- 3– *Evolutivity* (factor of development and/or growth)
- 4– *Combinability* (factor of superposition)
- 5– *Discontinuity-disjunctivity* (iteration “empty-full”)
- 6– *Sequentiality* (patterning)
- 7– *Matrixality* (factor of intertwining)
- 8– *Flexibility* (factor of elasticity and/or malleability)
- 9– *Mixicity* (factor of crossing and hybridism)
- 10– *Irregularity* (factor of singularity)

These inherent parameters of irregularity, complexity and change suggest non-linear progressions generated based on successive arrhythmic variations associated with recursive procedures of option/decision and nuclear criteria or operative patterns – i.e., instructions that are inductive and generative at the same time – which have the potential to encourage the elaboration of more extensive and broader theorems based on others that are shorter and more basic.

To summarize some of the considerations put forward up to this point, it could be emphasized that:

5.42. Primitive village, Sokota (Africa) The diagrams select information with respect to points of occupation, route channels, connection grids, intersection nodes and main accesses in a matrix-like and radiolarian structure (in *Arch+* no. 121, 1994).

- 1–We are interested in highlighting both the “*inform(ation)al*” and the “*systematic*” characteristics of the dynamic structures – “open dispositions” – we are analyzing here, associated with open geometries of with an irregular sensibility.
- 2–In these geometries, despite their apparent singularity and irregularity, we find underlying “emergent” phenomena that tie the processes into basic combinations associated with sequences of “*fullness/emptiness/linked-ness*” “*point/line/surface*”, “*concentration/dilatation/interconnection*”, “*positioning-spacing- displacing (displacement)*”, “*occupation-separation-articulation (access)*”, etc. that are generated according to “internal patterns” or nuclear criteria for development.
- 3–In the different possible trajectories, and in the geometries generated in this way, it is possible to localize factors of recursiveness called upon to encourage relationships of multi-scalar transfer between abstract formulations and concrete evolutions.
- 4–It is worth noting this possible “basic codification” of information based on trajectories or maps and/or diagrams of synthesis.
- 5–These trajectories would condense (synthesize) the theoretical evolutions and multiple dispositions that configure the system, expressing not only the underlying criteria (the “logics”, “decisions” or “nuclear instructions”), but also its possible evolutions and/or combinations.

They would also reveal the possibility of conceiving more open (systematic and contingent, abstract and concrete, strategic and tactical at the same time: “operative”) formal dispositions in resonance with the phenomena in question, and whose “reactive” (“relational” and “activating”) characteristics will be studied in the following pages.

- 1– See EKELAND, Ivar: *Le Chaos*, ed. Flammarion, Paris, 1995.
- 2– “Within mobility, as opposed to position, opposition or composition, there is only room for disposition, in the two senses of the term: both spatial and psychological – i.e., architecture that allows an open space for difference and a positive affirmation in the face of life”. See HADJISAVVA, Dimitra: “El concepto de lugar en las teorías arquitectónicas: mutaciones”. Lecture given in the context of the “UIA-Barcelona 96” congress.
- 3– “The term ‘fold’ or ‘unfolding’ is not a geometric or representative framework, but rather a type of connection, of correlation between heterogeneous forms: a *relating machine*.” See HADJISAVVA, Dimitra: “El concepto de lugar...”, op. cit., referring to Deleuze.
- See DELEUZE, Gilles y GUATTARI, Felix: *Mille Plateaux*, ed. de Minuit, Paris 1980, pg. 383.
- 4– See DELEUZE, Gilles: *Conversaciones*, ed. Pretextos, Valencia 1995, pg. 278.
- 5– See SOSA, José Antonio and GONZALEZ, Maria Luisa: “Vacío: deriva y captura,” *Lecture given at the IUA Congress Barcelona 96*.
- 6– See van BERKEL, Ben and LYNN, Greg: “Conversation” in *El Croquis* no. 72, 1995, pg. 6.
- 7– See ALLEN, Stan: “Distributions, Combinations, Fields” in *The Berlage Cahiers* no. 5 ed. 010, Rotterdam, 1996, pg. 72 and *BAU* no. 014, 1996 referencing work by E. Canetti and Barry Le Va.
- 8– In CASARES, Julio: *Diccionario ideológico de la lengua española*, ed. Gustavo Gili, Barcelona 1959.
- 9– See HELBING, Dirk et al.: “Strukturbildung Dynamischer Systeme” (“Structural Formation of Dynamic Systems”) in *Arch +* no. 121, 1994. See also THOM, René: “Life Scores,” in *BAU* no. 014, 1996, and *Esquisse d’une semiophysique*, ed. Inter Editions, Paris 1988.
- 10– See BECKER, Sybille et al.: “Selbstorganisation Urbaner Strukturen” (“Auto-organization in urban structures”) in *Arch+* no. 121, 1994.
- 11– See HALL, Edward T.: *The Hidden Dimension*, ed. Anchor Books, New York 1990. pp. 10-15.
- 12– Adapted from BALL, Philip: “La lógica de las multitudes,” *El País* 25/10/ 2000 and BALL, Philip, *Critical Mass: How One Thing Leads to Another* Farrar, Straus and Giroux, New York 2006.
- 13– See BALL, Philip: “La lógica de las multitudes,” op. cit.
- 14– See BALL, Philip: “La lógica de las multitudes,” op. cit. and HELBING, Dirk et al. op. cit.
- 15– See ALLEN, Stan: “Distributions, Combinations, Fields,” op. cit.; See also CANETTI, Elias: *Crowds and Power*, ed. Farrar, Strauss and Giroux, New York 1989, pg. 28.
- 16– See BECKER, Sybille: op. cit. and HELBING, Dirk et al.: op. cit.
- 17– See HELBING, Dirk et al.: op. cit.
- 18– See BATTY, Michael: “The Fractal City” in *AD* no. 9/10, vol. 67, 1997, pg. 74-83.
- 19– See EKELAND, Ivar: *Le Chaos*, ed. Flammarion, Paris 1995.
- 20– See ALLEN, Stan: “Distributions, Combinations, Fields,” op. cit.
- 21– See MANDELBROT, Benoît: *The Fractal Geometry of Nature*, WH Freeman and Company, New York 1982.
- 22– See BRIGGS John: *The Pattern of Chaos*, ed. Thames & Hudson Ltd., London 1992.
- See also: See also: BATTY, Michael: “The Fractal City,” op. cit., pg. 74-83.
- 23– “Podemos afirmar que existe una concepción y una geografía fractales de la naturaleza. Estas se basan en el concepto de autosimilitud, una propiedad por la que las partes pequeñas se parecen al todo...” See MANDELBROT, Benoît: *The Fractal Geometry of Nature*, ed. Freeman & CO., New York, 1982, pg. 468.
- 24– “Las funciones caóticas y no-periódicas poseen, no obstante, un orden interno completamente preciso remitible a ecuaciones o comportamientos iniciales”. See MANDELBROT, Benoît: *The Fractal Geometry of Nature*, op. cit. and EKELAND, Ivar: *Le Chaos*, op. cit.
- 25– As a complementary text, see: GAUSA, Manuel: “Distribuciones, disposiciones, dispositivos” in *Fisuras* n. 11, 2001 Ed. Fisuras de la cultura contemporánea, Madrid, pgs. 48-67.

I. Reformulations:

Space and Time > Space-Time > Space-Time-Information

Order is not control, but rather the capacity for relationships

Up to this point we have been occupied with the analysis and development of present-day urban processes and the associated dynamic structures, since they have been revealed rapidly, and in a relatively short amount of time, as the most obvious manifestation of a new “type” of organization – i.e., of ordering and, therefore of order – that is more complex and interactive, and which we are interested in highlighting here in order to understand the associated logical parameters – and configurations.

6 DISPOSITIONS

(ORDER-FORM-ORGANIZATION)

Dynamic Time, Informational Order: <In-Ex> Factors

Indeed, the observation of present-day urban structures allows for intuiting, as has been pointed out by Alejandro Zaera, how *“the chaotic behavior of current urban phenomena is part of a global process based on a reformulation of order, as opposed to its negation or its absence.”*¹

A process that alludes to plural and differential phenomena, whose multiple combinations can hardly be reduced to the “watchful” (stabilizing and prefiguring) old formulas associated with the traditional idea of order.²

Only a new dynamic understanding of order – and the flexible “organization” associated with it (beyond the traditional formulas of “order=control”, “disorder=chaos”) can allow for truly effectively approaching the apparently “undisciplined” nature of the structures that are rapidly defining our environment today. As Pablo Palazuelo would say, *“Order does not necessarily imply ‘law’ – or control – but rather the capacity for relationships.”*³

This idea of “order” as an internal organization (or contract), based on sequences of flexible relationships, rather than categorical ties, no longer has any connection to the old totalitarian, “absolute”, continuous and stable notion of classical “composition” or – as we have already commented – with the modern objectual conception of “position”, which is more relative, “distanced” and fragmented (but equally deterministic). On the contrary, it alludes to an open, and yet paradoxical, conception of the idea of order as a “disposition”: as an operative agency that has the capacity to encourage a high degree of “determined indeterminism” among multiple combinations; among stimuli and information that is “diverse” and “harmonized” at the same time.

As such, this new idea of order is ultimately intended to relate the definition and organization of space (the fundamental essence of architecture) with the recent – scientific, social, philosophical and (or) artistic – interpretation of our surroundings, of our space and time. Throughout the last century, this question experienced the transfer from a completely separate conception of “space” and “time” to the proclamation of the inseparable binomy “space-time”; now, we are faced with the new and decisive link between “space, time and information”.⁴



II. Deterministic Order

In Chapter 2 we pointed out how Sigfried Giedion's paradigmatic essay from 1941, “Space, Time and Architecture” was perhaps the text that best reflected the tendency at the time toward an interaction among architecture, the arts and science. Thirty-six years earlier, Albert Einstein had published his “Theory of Relativity”, which has had such a great impact on our understanding of the universe, but also on the modern conception of positional space:⁵ the compact idea of a continuous and hierarchical universe made way for a more objective and fragmented vision (constructed on the basis of discontinuous experiences in “relative positions”) whose influence characterized a significant portion of modern thought and the subsequent disciplinary “tradition” during a large part of the second half of the 20th century.

The very term “space-time”, used by Giedion, took on intentionally explicit echoes that suggested a possible correlation between the new aesthetic experimentation and the new scientific theories of relativity.⁶

Those theories had put to rest the Aristotelian (and Newtonian) idea of an essential, metaphysical time – separate from space – by engaging both concepts definitively with one another: the measure of time depended, from that point forward, on a “position” in space and, as such, on the relative movement of the observer(s). However, its foundation still rested on fundamentally linear causal and deterministic criteria.

The theory of relativity brought an end to the dominant conception of an absolute time, situated “above” or “beyond” the observer, replacing it with a new, more relative and positional order, which nonetheless remained confident in a strict prediction of results.

6.2. “Space-time” diagram according to Einstein's theory of relativity.

(in Paul DAVIES, Simon & Schuster 1996).

6.3. “Space-time” diagram of events associated with the emission of pulses of light, according to Stephen Hawking, (Bantam Dell, New York 1988).

As Stephen Hawking wrote in his well-known text *A Brief History of Time*:⁷

“Both Aristotle and Newton believed in absolute time. That is, they believed that one could unambiguously measure the interval of time between two events, and that this time would be the same whoever measured it, provided they used a good clock.”

Time was completely separate from and independent of space.

In the theory of relativity there is no unique absolute time, but instead each individual has his own personal measure of time that depends on where he is and how he is moving”.

This was confirmation of the substitution of a classical “totalitarian” order – continuous, homogeneous, compact and deterministic – for a new, more relative and discontinuous order, which was, however, no less confident in the strict – “rational” – control of the associated results and “form”.

This transfer had a decisive effect (as we will see in the analysis further on) on a turning away from the historical “compositional” logic, based on the organic and “cohesive” continuity of form, toward a new “positional” logic that was more fragmented, though not any less deterministic, based on a hypothetical “coherent” correlation between elements that were both discontinuous and linked to one another at the same time.⁸ This idea of a “deterministic” control was underlying in Einstein’s vision of the universe.

Einstein himself never actually accepted the idea of a universe governed by chaos or chance – “God does not play dice” – but rather a universe governed by rules with the potential to be generalized, which implied the exact predictability of their results.⁹

Whereas all of classical physics rested on deterministic models that the mathematician Laplace had proclaimed in the 18th century, relativist physics no longer relied on the Newtonian model of predictability, by which any system could be determined entirely – i.e., (pre)defined – based on its initial

status and its “present” status (solving the right equations allowed for predicting future states and reconstructing past states in a practically unambiguous and linear manner).¹⁰

Until well into the 20th century, the notion of a deterministic model, associated with a linear model, influenced this “redundant” understanding of reality.¹¹

Indeed, we continue to use basic scientific laws (which are still largely functional, like the law of gravitation and even the theory of relativity) which emerged from a linear and deterministic conception of the universe and which largely referred to reductive equations, whose most significant property was that of “additivity”: effectively, in a linear system the sum of two solutions would result in another solution necessarily derived from the addition or the simple sum of the previous solutions; the whole is precisely and necessarily the strict sum of the different parts.

The very “methodology” of linearity – or, if you prefer, of coherent additivity – is rooted in this capacity for analyzing, registering and/or (de-)composing reality by dividing it into the elementary “parts” of a single whole, which can ultimately be reproduced by this stable (re)construction of an original, initial, genuine and complete scenario; elements, fragments or pieces of a “whole” which, though it may not always be “cohesive” is coherent and which seems to contrast with the more slippery, uncertain and unstable “impurity” of our own environment today.¹²

III. Dynamic Systems and Non-Linearity

The old Newtonian paradigm and much of Einstein's came up against the challenge of a more rapidly dynamic, changing and "slippery" universe – more restless, troubled and, in any case, heterogeneous – where most processes, including the ones that seemed most stable, tended to reveal themselves as extraordinarily undisciplined, associating their behavior with non-linear trajectories derived from their complex and definitively interactive character.

In these dynamic processes, movements and – global – positions in space had to be combined with the influence of the –local – input of information associated with each particular event. This exchange – or interaction – of information ended up affecting the whole to a considerable extent, continually modifying its trajectories.

The global (generic/general) system varies, in keeping with the variation – and accumulation – of specific information.

Dynamic systems theory consists in the study of these processes, not only of the flow of space-time, but also of information: in movement.

Systems that exhibit stable behavior across a wide spectrum and which, given an incidental variation, suddenly switch to completely new inertias and behavior.¹³

The study of dynamic systems, related to flow analysis, chaos theory and the applications of quantum physics, has seen progressive development over the past 50 years due to the recent technological capacity of using computers for simulating (and calculating) trajectories with complex geometries associated with processes that are defined as random.¹⁴

The Newtonian paradigm and much of Einstein's are now faced with the evidence of a more dynamic and uncertain topological scenario as a result of its open and interactive nature.

6.4. Chaotic landscape of fractal self-similarity (A.ZAERA : "Orden desde el caos," *Exit* no. 1, 1994).

6.5. Epigenetic landscape. Open and indeterminate evolution of an event. (in Sanford KWINTER: "Landscapes of Change," in *Assemblage* no. 19, 1992).



Although the theories of uncertainty and their corollaries (non-linearity, particle theory, indeterminism) emerged in the first third of the past century (with the hypotheses developed by Poincaré, Heisenber, Planck, etc.), it was not until well into the 20th century – the “recent” 1960s and 1970s – that computer technology allowed for approaching and precisely instrumentalizing the apparent unpredictability and “ungraspability” of trajectories that were fluctuating and highly irregular in their “outlines”, which seemed to swing between pure “chance” – the ambiguous frontier of fortune, haphazardness, contingency – and what is simply “vague”, in that it is open.

Thirty years later, these dynamics would represent important implications in the field of architecture, the city and spatial design in general, opening it up to a less “definitive”, more flexible, heterogeneous and irregular conception of the very idea of “order” and form associated with it.¹⁵

Dynamic simulations, then, allow for substituting the old (closed off) binding formulas of linear models with more elastic (open) formulations.

Formulations, in effect, as opposed to formulas.

The observer/programmer defines initial situations, “induces” – or deduces – “directed” processes, and checks “partial” results based on the recording of various accumulated trajectories; but he or she refuses to determine a foretelling of a final (definitive, conclusive) “script” – and/or formalization – of the phenomenon and is often surprised by the intermediate results that are generated.

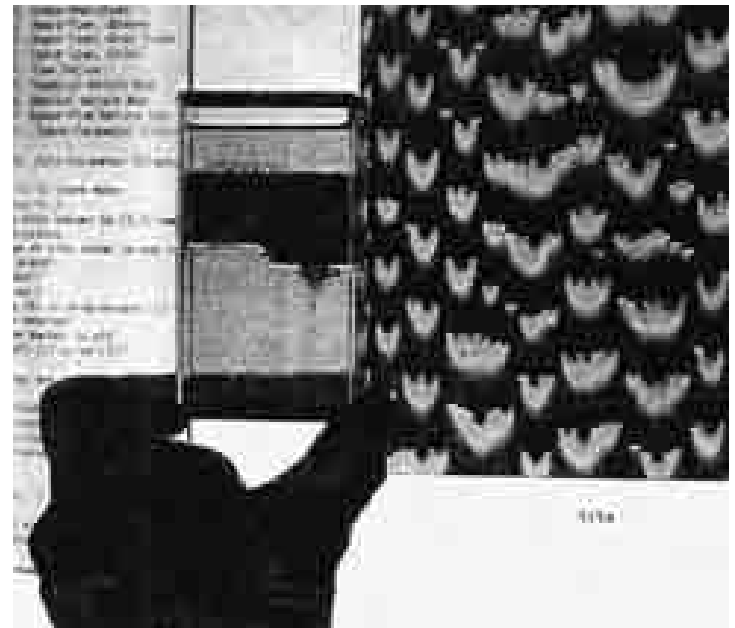
The aim, thus, is to approach processes and take note of “testing protocols”, i.e., varied and variable combinations of results.¹⁶

The protocols appear as “theorems” – as “summaries” as opposed to “proofs” – of certain combinatory rules and hypotheses and, at the same time, their possible evolutions. In other words, as both descriptions and simulations of certain

(and “other”) possible open trajectories that are diagrammed – synthesized, recorded and/or mapped – into “evolving frameworks”.

If the ultimate value of a linear equation is to give rise to a complete, definitive result laid out through portions – and proportion – that link cause and effect, then non-linear equations operate on the basis of iterations, feedback, and multi-scalar and irregular recycling, leading to resultants which are immediately propelled forward, in a fluctuating and helical, recursive and retroactive of contingent trajectories that are both “singular” and “variable”, as well as “directed”, all at the same time.

6.6. Falling drops of water are studied carefully. Computational models allow for recognizing families of structures that are similar to one another, and always different (archive).





IV. Protocols, Patterns

The properties of a non-linear dynamic system do not arise from random, totally disconnected accumulations, but rather from what is called “deterministic chaos” or “determined indeterminism”: a hybrid coupling of apparently contradictory terms, but which specifies the conditions for the production of certain phenomena that are undisciplined, yet not necessarily lacking in a certain internal, generic and contingent logic at the same time.

The behavior of this “determined indeterminism” is “deterministic” to the extent that it is theoretically possible to express and synthesize hypothetical “ranges” of “options” and “decisions” into basic – and also evolving (like in Lorenz equations) – formulations and/or “instructions” and to resolve them in an effectively open manner.¹⁷ However, the indeterminism of the trajectories that are generated arises because the system is sensitive to the variation and interaction of and between the specific “actions” that end up defining in and disrupting it at the same time: each information-alteration generates, effectively, a local action which results in changes to the global configuration.

Indeed, the dynamic – and reactive – logic of the system interacts both with itself and with the environment/medium in which it operates (with its own conditions and transformations) in a process of developmental spirals and loops in constant positive (retro)action, fluctuation and/or variation. In this process of folding, refolding and unfolding of the system, the local (individual) effects influence the global (general) configuration and evolution beyond the old rigid idea of “top-down” hierarchical cohesion, making way for multiple and simultaneous combinations.

While non-linear formulations are often associated with “complexity”, they are not necessarily “complicated”. *Complexity does not always imply complication.*

They can also be generated based on simple devices that may be physical or intellectual (like certain mathematical or diagrammatic models).

In its way, each device involves a certain basic number of triggers, rules, factors and instructions that end up producing complexity based on dynamic and evolving logics that are noticeably “chaotic”.

Despite the apparent lack of definition of the system, the evolution of its trajectories are in accordance with a prior decision – or, better, a pattern of decisions: the ones provided by the device, the preparation and the “nature” of the adopted “formulation”, which vectorized the results but does not predetermine them.

The largest contribution of these dynamic and non-linear formulations is to propose a pseudo-deterministic model that leaves room for chance: a dimension of unpredictability, because it is multiple; randomness, because it is incidental; or, better yet, because it is “open”.

Although the system – in a global sense – associates is maneuvers with more or less recursive or generic trajectories – “trajectories of consensus”, “developmental forks”, “horizons of uncertainty” or “strange attractors”, like generative instructions and evolving decisions, nuclear criteria or operative patterns, which are inductive and generative at the same time, its specific movements (each of the combinations between individual events and global logics) elude what is strictly prefigured and stabilized: each protocol defines a configuration that is independent yet, nevertheless, “interconnected” to a whole series of others at the same time.

The aim, then, like when it comes to solving a linear equation, is not so much understanding each episode as the “additive fragment of a finalistic whole” (which outlines a “final” resulting trajectory) ; rather, it is the global system itself that appears “synthesized” or “compressed” at each moment, at each of the different “dispositions” or generated trajectories: trajectories that can be contemplated as virtual “experience protocols”, i.e., as possible combinations of possible variable results.

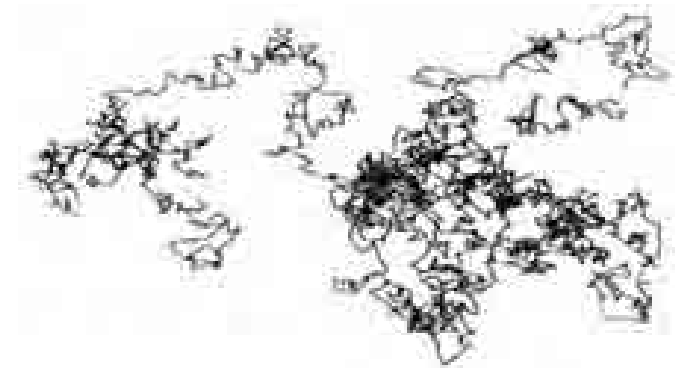
These trajectories are not so much “demonstrations” as they are “summaries” of certain rules and combinatory hypotheses and, their possible evolutions, at the same time.¹⁸

The study of dynamic systems introduces an inevitable factor of unbalance and instability, in sum, of irregularity in the conception of space and time; but also the acceptance of a possible induced “diversity”: in effect, the idea is not to propose absolute – singular, unambiguous, “exact” and invariable – results, but rather to enunciate and announce (formulate) “combinations” of results and conditions to generated according to “strategic criteria” or “protocols for action”.

This situation of virtual “oriented indetermination”, tied to movement and the exchange of plural energies – i.e., to an information process that is connected (global) and contingent (local) – appears to announce the transfer from mechanical time to interactive time and, as such, the transfer from an idea of “pythagorean harmony”¹⁹ based on cohesion and permanence, to a more apparent and substantively irregular – synesthetic and interactive –²⁰ universe, which can be correlated with the milieu conditions (heterogeneity and dynamism, dispersion and diffusion, diversity and simultaneity, fragmentation and arrhythmia, discontinuity and connectivity, relation and contingency, cross-breeding and mixture, artificiality and decoding, intrigue and paradox) pointed out in previous chapters as descriptive of scenarios that are emergent today.²¹ Thus, the 20th century seems to have come to a close, at the same time that chaos theories, the knowledge of non-linear systems, the logics of complexity and a new sensitivity toward dynamic processes were tending to generate, not only a multitude of experimental results, numeric simulations, mathematical theorems – both theoretical and empirical – but also a whole set of cultural and spatial research in parallel to the computer revolution, which have allowed for formulating new generative processes today, proposing other constructive

“equations”, simulating complex trajectories in space and addressing new authentically open “scenarios” with precision.²² Investigations conceived based on an idea of order, form, structure and organization that is less cohesive and less prefigured, less defined and less definitive, less pre-determined and more sensitive to an open, global and local interaction, to a less compact and strictly hierarchical, more “un-cohesive” and “un-subjected”, more irregular and differentiated expression of the individual and the general.

A “type” of form and a type of “order” – a “type” of logic and a “type” of organization – that is more decidedly “consistent” than diligently “coherent”.



6.8. An erratic path in search of food (archive).

6.9. Scarcely persistent fractional Brownian flight (in B. MANDELBROT: *Fractals: Form, Chance and Dimension*, ed. W.H. Freeman & Company, London 1977).



V. An Organic Order Rather than an Organicism One

Scientific studies have analyzed this paradigm shift and its relationship with evolving processes.

Today, these investigations propose important contrasts between the mechanical relativist ("modern") universe and the "reactive" and synesthetic – interactive and informational – indicated here as a descriptor of contemporary reality.²³

– A mechanical system "produces" an object "in" space and "in" time, whereas in a dynamic and interactive systems "processes" trajectories "from" an information space-time: building up its evolutions based on each of the actions and the information that influence it; alluding to a "temporary development" – of change – that is implicit in the system itself.

If a mechanical system pursues a "static stability" that is based on a closed equilibrium and pre-arranged and pre-established parameters of "control". An interactive system proposes a dynamic stability, based on "open parameters" that are far from equilibrium.

It does not show apparent "controllers of form" or pre-established points. It works using "intercommunication" and mutual "co-responsibilization".²⁴

– A mechanical system is "made up" of additive parts, each one is "juxtaposed" (or added) to all the others.

A dynamic system, on the other hand, defines a topological and differential totality, where the parts whole, globality and locality, appear mutually implicated – interwoven and overlapping.

Whereas a mechanical system appears "made up" "as" and "by" a set of interconnecting cogs, an organically dynamic system is demonstrated as a "holistic" agency of intertwining pieces – or elements – in an interactive way in a virtual co-participatory network "contract", associated with a virtual combinatory capacity: "option/decision/disposition".

VI. Informational Order / Informal Order: <In> Factors

Classical space and modern “space-time” have been followed by an inform(ation)al space-time, which creates greater instability and indetermination in our understanding of the universe – greater informality – but which also allows for assimilating it to a great catalyst for impulses and demands in a possible interactive “co-participation” associated with global developmental frameworks.

This dispositional characteristic of what is “informational” and “informal” – both terms are used interchangeably here – is interesting because of the similar and combined messages that it possesses:

- reactivity in response to stimuli from combined, simultaneous information,
- the absence of a pre-existing “form” or “figuration”
- a failure to obey strict behavioral “codes”, or better yet, exterior prefigured “disciplines” (substantial un-inhibition and un-subjection)

Informality, as inform(ation)ality...

Informality as the absence of “formality” or “formalism”.

Information as a virtually “undisciplined” action (unpredictability, irregularity, un-prejudice).

Informality as the (un-subjected) overlapping and simultaneity of events displayed in – and as – series of “shifting certainties”.

Belonging to a logic that is “synchronic” and “diachronic” at the same time: “synchronic” because it is simultaneous, “diachronic” because it is disjunctive.

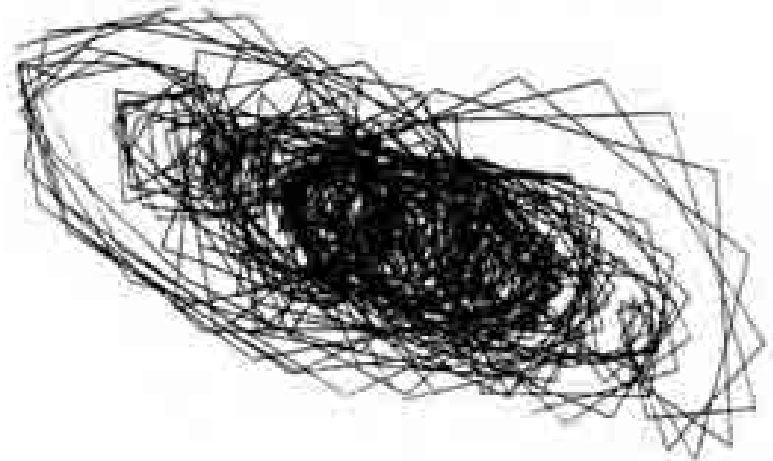
Diverse and differential.

Negotiated and singled out.

A logic that is definitively more open, associated with a more informal/informational order, whose essential characteristics are associated with a determined – and decisive – conjunction of

<in> factors, which are more or less evident and explicit in their developments:

- 1– Indetermination (uncertainty principle)
- 2– Instability (impermanence / inconstancy)
- 3– Incompletion (infinite)
- 4– Individuality (intermission)
- 5– Intermittence (inter-cadence)
- 6– Interconnection (infrastructural immanence)
- 7– Impurity (indiscrimination)
- 8– Involvement (implication)
- 9– Immediacy (immersion)
- 10– Indiscipline (unpredictability)



6.11. Attractors (in BRIGGS John: *Fractals: The Patterns of Chaos*, ed Thames & Hudson Ltd., London 1992).

Graphic notation of a complex movement of non-linear evolutions.



6.12. David Seymour, Chim: "Tereska draws her home".
Random scribbles according to spontaneous self-generated movements.

VII. Informal Order / Elastic Order

The study of nonlinear dynamic systems has revealed, increasingly rapidly, the possibility of considering another type of more open order, defined beyond the traditional idea of order as a closed control of processes.

A more "informal form" and a more "disordered order", fundamental to the current understanding of scenarios (environments for coexistence) which – as we have been demonstrating – maximize their irregular effects due to an increase in the phenomena of mobility and exchange, and an increase in the degree of interaction between the different information that has an impact on them.

This basic concept of order in flexible relationships, rather than categorical links, in heterogeneous structures rather than regular frameworks, has nothing to do with the former totalist notion of classical composition or with the modern dogmatic position, but with a more open and paradoxical conception of the very idea of order as a relational disposition: a flexible agency that is capable of favoring this hypothetical "indeterminate determination" among diverse and harmonized stimuli, characteristic of a new, more informal – in that it is informational – type of organization and the associated *<in>* factors: a high degree of interaction and exchange, uncertainty principle – *indetermination*, *instability* and *inconstancy* – *infrastructural* property – *interconnection* and *intermission* – *individual* capacity, a vocation for *incompleteness* – *infinity* – and, above all, a tendency for indiscipline that is directly associated with its operative virtual *insubordination*, its impurity, *indiscrimination* and *unpredictability*. This new "order-disorder", then, associated with a new more *informal* form, translates the paradoxical conditions of the scenarios in which it acts (and from which are also derived the open parameters of the forms, structures and geometries – and/or configurations – that bring it together) and which indicates, definitively, the open (as in informational) character of space – and logic – that we have been discussing.

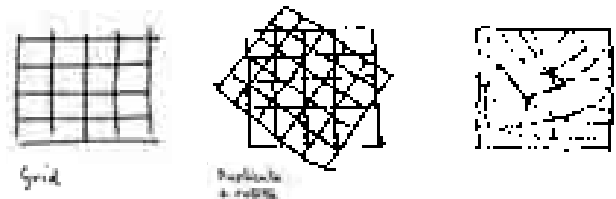


VIII. Does New Science Equal New Architecture?

It is from this type of approach that we are interested in approaching the idea of – spatial – “form” as a hypothesis associated with the concept of dynamic “form(ul)ation” and its transformations at the turn of the century, beyond the criteria of binding order and pure or regular geometry, which characterized traditional architectural space.

The transfer from the idea of classical composition to the subsequent modern idea of position and the current notion of contemporary disposition and its implicit consequences for the interpretation of the designs (in space) derived therefrom.

Despite the scientific progress in multiple spheres of knowledge and creation as a result of the understanding of complex phenomena, the field of architecture still mainly continues to rely on criteria of order based on elemental and cohesive concepts, pure geometries, reiterated series, and implicitly “rational” structures in that they are regular (inalterable and staunch in their fixed predetermination): in short, rigidly linear models. Routine and disciplinary convention tend to favor the use of basic recognizable laws – which are repetitive, reiterated, continuous and predictable – as traditional formulas for action.



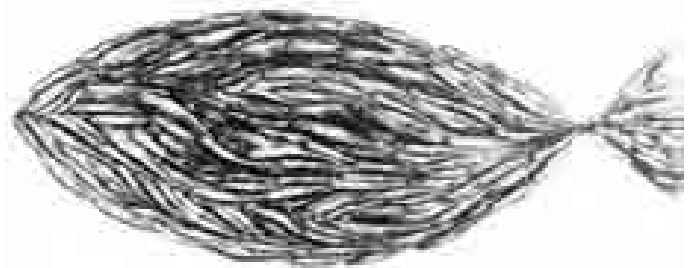
6.13. D-Day. Normandy landing (archive).

6.14. Description of the evolution from a regular geometric structure to an irregular system. Diagrams for the Chemnitz stadium (Kulka-Königs-Balmond, 1998).



In fact, the customary acceptance of a “comfortable” linear operative responds – as the mathematician Peter Saunders aptly pointed out²⁵ – to a cultural inertia based on shared experience; the experience fostered by those systems which were studied with the most intensity: generally the most regular and predictable ones, which were, precisely, linear.

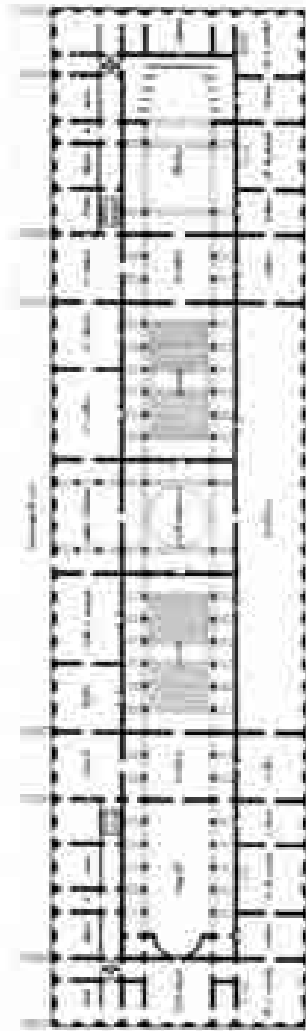
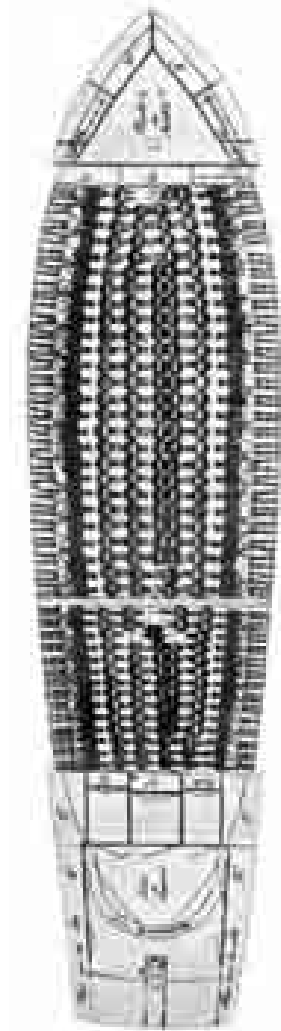
The architectural translation of that procedural inertia, made up of “pre-established” conditions (predictable results, in that they are prefixed, prefigured) brought about the definition of “totalist and totalized” orders, laws, structures or organizations – balanced, finite, complete – based on the application of stable (i.e., stabilized) outlines – drawings, figures or formulas – that refer, in turn, to linear (additive) processes that rely on fixed, static, well-adjusted trajectories, i.e., on (com)positions: “cohesive compositions” or “relative positions”, which may be compact or fragmented, although in both cases they are essentially (pre)determined.



6.15. A group of fish as a dynamic system: a school in which the elements attract and repel one another at the same time in an open process of mutual interaction.

6.16. Irving PENN, photographer: *Fish Made of Fishes*, New York, 1953.

A series of fish as a closed composition, a “figure” – or an outline – in the form of a “superior” fish (in *La Vanguardia Magazine*, September 23, 2001).



IX. Compositions. Space and Time

Speaking of composition means referring to what would have been a paradigmatic organization of a classical order. A ritual or hierarchical order, subject to an essentialist and stable – nearly metaphysical – conception of a space and a time that were still separate, as absolute, exact entities: “predictable” in their own “transcendent” evolution.

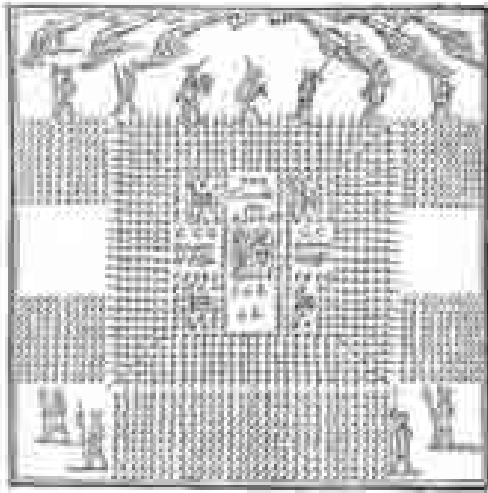
Behind the “protological” idea of this willingly single and homogeneous – harmonious – “order” lies the confidence in a cohesive control of things and in their fundamental... and foundational... stability and their (regulated and regular(ized)) subordination to the stability, continuity and permanence of a pre-existing, preconceived and binding superior unit. An essentially totalist and finalistic figure – or, better, figuration. Any of the different examples of classical order and architecture appear linked to structures that are organized as “complete entities”, which base their coherence on geometric systems of proportion and outline, through which each “component” appears as a “subject” that is essentially subordinate – subject, at the same time, to superior (pre)fixed – and prefigured – structures and to unifying regulated – and regulating – codified norms.

“Subject” codes and elements that allude to an absolute, hierarchical and compact idea of form, which is more “ceremonial” as it is “ritual” (evocative and formal) or homogeneous (cohesive and uniform); i.e., it is more “disciplined” precisely as it is more “composed”.

Confidence in a hierarchical and cohesive control of things – and their apparent stability – and subordination of each of the specific elements to superior figures and structures that are defined according to geometric criteria of proportion and outline, allude to compositional order that is more “disciplined” precisely as it is more composed in its forms and configurations.

6.17. Plan of a slave ship (Nantes Marine Museum).

6.18. Plan of an urban palace. DURAND: *Précis des leçons d'architecture*.



Compositional logic orders space using elements that are subject to a compact formation in a "parade" order or in a situation of "review" and contemplated from a single exterior point of view.

6.19. Reproduction of a "marching order" created for Julius Caesar's "square legion" and recreated by J. Thompson in his edition of Caesar's *Commentaries on the Gallic War*, London 1712.

6.20. Thomas Styward: Army preparing for battle. 150 men in a quadrant proportion ("The Pathwaie to Martial Discipline." The Huntington Library, California in *Bau* 013, 1995).

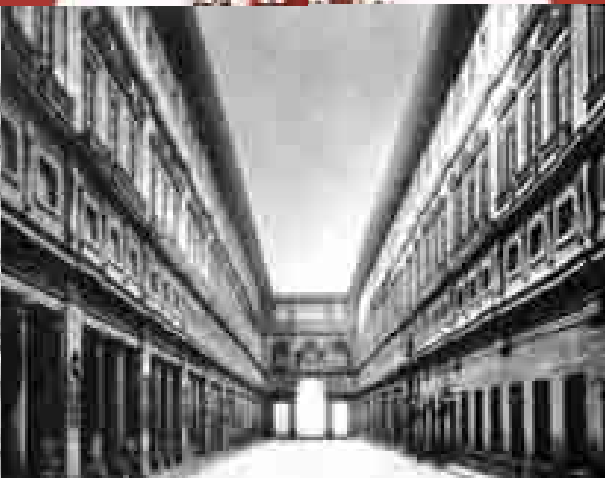
Although the relationships between each of the parts could be expressed numerically or arithmetically, their character is fundamentally geometric, almost morphological. Alberti's well-known axiom – "beauty is that reasoned harmony of all the parts [...] so that nothing may be added, taken away" – expresses this idea of an organic unity – of support – based on a geometric organization/construction that is fundamentally Euclidean and essentially Pythagorean, "pure" and "harmonious". As Stan Allen pointed out:²⁶

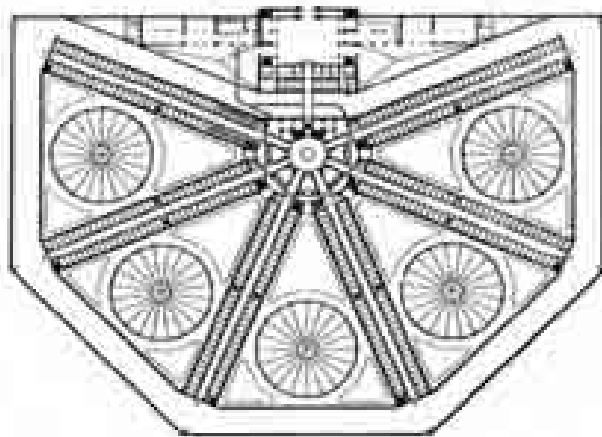
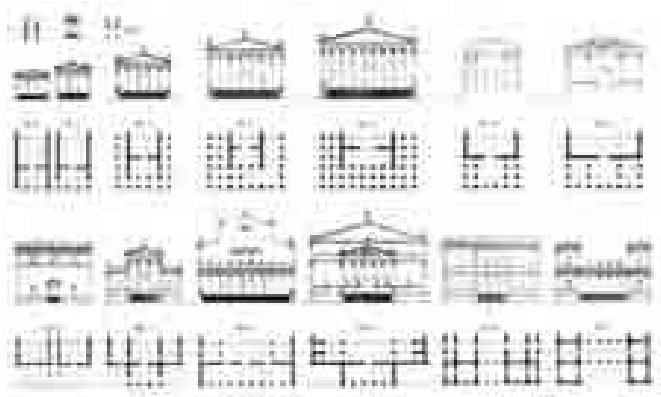
"The conventions of classical architecture dictate not only the proportions of individual elements but also the relationship between individual elements. Parts form ensembles which in turn form larger wholes. [...] Precise rules of axiomaticity, symmetry, or formal sequence govern the organization of the whole."

Classical or "compositional" order tend to arrange space using different connected elements that end up constituting a combined global "form" adapted to pre-existing outlines (and regulations). The search for regularity in the structure, and in the organization and distribution of the units, characterized this type of protological configuration – occasionally illuminist but also absolute and totalitarian – that could be recognized in the "regulatory" intent to "codify" and "balance" an idea of form that is always understood as a formation that is recreated or reproduced: military organizations, stocking of things and beings (shipments of slaves, for example) or architectural orders (like linguistic norms).

Classical compositional logic refers to a preferentially compact formal link between subjects, that also comply with a hypothetical global "formation" considered as a "parade" order and adapted to a series of recognizable and fixed (or virtually fixed) figures as a point of reference: distribution axes and lines of flight combine in a type or organization that is conceived as a "review situation" from a single, privileged exterior point of view.²⁷

The capacity for interconnection – for internal connection and





The "classical" compositional order alludes to an order that is not only ritual, where the discipline itself refers back to the understanding of certain "behavioral norms" and a universal semantics based on reproducing a series of formal codes understood as a common grammar – or language.

6.21. Treatise on typologies as a catalog of "good offices".

DURAND: *Précis des leçons d'architecture*. 1819.

6.22. Panopticon composition. Mazas prison. Paris, 19th century.

communication – is based on an essentially "visual" determination that is what ultimately lends efficiency to the whole.

The representation on which most of that type of compositional organization rests is that of a privileged and "axial" vision formulated based on a "frame" or an apparently stable set of "frames", which take their maximum point of reference in lines of flight and a frontal view.

The organization in plane (2D) results in the most frequent and elemental form of order. It implies a linear system of hierarchical distribution constructed using outlines (regulating axes) where the notions of "symmetry" or "beginning and end" refer to an origin – "central", radial or axial, virtual or real, but always referential: "the origin of everything".²⁸

From Aristotle's *Poetics* classical buildings sought to reproduce "a world inside the world" subject to the metaphysical interpretation of a possible continuity with a certain, exact and complete, ideal of a "harmonious building" of things, i.e., with a desire for a single, stable totality, that is "limited and limiting". A three-part – metaphysically trinitary – "whole" with a beginning, a middle and an end, supported by this "ordered conjunction of parts" where each individual element is subordinated – as a part – of that "whole" and establishes a single coherence with it and in it, between one part and the others.²⁹

Previous page:

The representation on which classical compositional organization rests is that of a privileged and "axial" vision formulated based on an apparently stable "frame" that takes its maximum point of reference in lines of flight. A "disciplined" space, in formation, related to the permanence of a possible absolute, unitary and ordering outline.

6.23. Parade at the Citadel military academy (in *Colors* no. 34, 1999).

6.24 (sides). Rue de Rivoli toward Place de la Concorde and toward the Louvre

(in Sigfried GIEDION: *Space, Time and Architecture*, ed. Harvard University Press, Cambridge 1941).

6.25 (center). Florence, Uffizi Gallery.



X. Positions. Space-Time

The assumption of “relativity” – manifested simultaneously in art and the sciences at the beginning of the 20th century – introduced a new spatial, scientific and cultural paradigm, where the coherence “of” and “between” things no longer lay in their subordination to a central, hierarchical or dominant principle, but in their reciprocal positions – and manifestations.

This implied the rejection of a privileged classic point of view, by situating all points of view on equal footing so that “the positions between things were as important as the things themselves”.³⁰ With the concept of relativity, there is no longer an intrinsic center; rather each “unity” is conceived as the center of a hypothetical order that is adequately distributed (or “positioned”) in space.

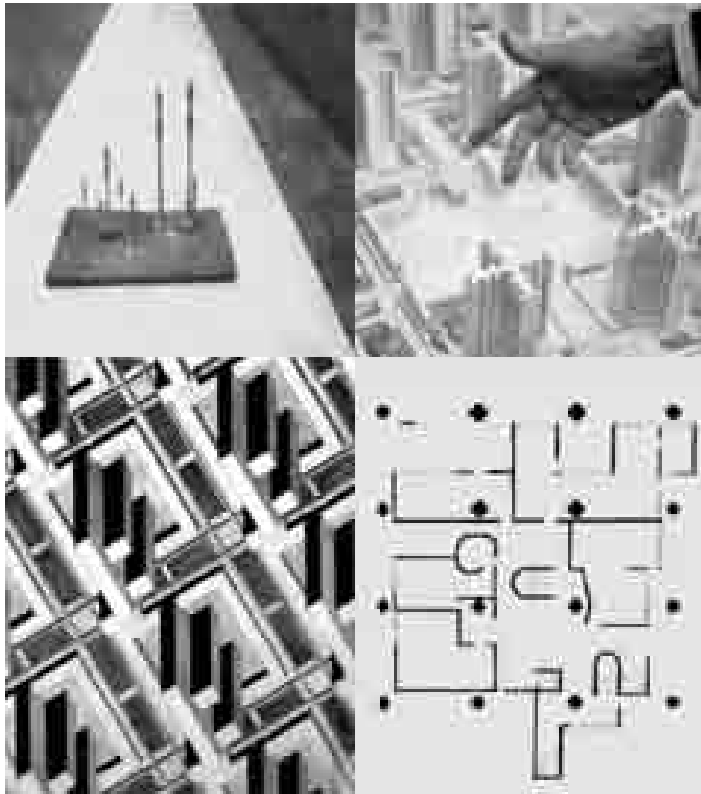
Modern space – i.e., relativist space-time – implied the transfer from the hierarchical idea of static composition to the freer idea of relative position. The compact coherence of a continuous, hierarchical, absolute universe made way for a more fragmented idea of “discontinuous experiences in relative positions.”

An idea that – as we have stated before – ended up characterizing a large part of the conceptualization of space throughout the past century, substituting the idea of a separated space and time for the notion (no longer fixed, but still stable) of a referential “space-time”, linking both terms in a single concept that was more material than ideal, functional more than ritual, doctrinal more than symbolic (positional and positioned,

Modern space implied the transfer from the hierarchical idea of static composition to the freer idea of relative position, yet it is still supported by the fixed and exact definition of pre-determined results derived from an overriding framework. It is worth comparing the rigid geometric abstraction of the actors who “pose” for Resnais in “Last Year at Marienbad” (1961) with the volumetric planimetry of complexes like Saint-Dié and their strict – and essentialist – positional workings.

6.25. A. Resnais: “Last Year at Marienbad,” 1961 (D. Parkinson, *History of Film*, ed. Thames & Hudson, 1995).

6.26. Le Corbusier: Reconstruction of Saint-Dié, 1946 (in *Le Corbusier*, ed. G.G., Barcelona, 1982).



Perhaps the concept of “free plan” was the most distinctive contribution of the modern positional – and objectual – order, characterized by the discontinuous vertical “punctuation” of a fundamentally “horizontal” plane. Buildings and pillars, exterior and interior volumes, appear as independent objects that are “positioned” in the uninterrupted fluidity of an enveloping and continuous space.

6.27. The vertical punctuation of Giacometti’s pieces stands in contrast to the white horizontal plane designed by Van Eyck for the Liège exhibition, 1951.

6.28. Le Corbusier: *Une nouvelle ville remplace une ancienne ville*. Porte Molitor, 1930.

6.29. Cornelis van Eesteren and L. Georges Pineau. *Quartier d'affaires pour une grande ville contemporaine*. Paris, 1926 (in V.V. A.A. *Visions urbaines*, ed. CCCB and Electa, Madrid, 1994).

6.30. “Le plan libre, libéré de contraintes,” Le Corbusier, Palais du Gouverneur, Chandigarh, 1953.

6.31. Frameworks of relative space-time and Le Corbusier: *Dom-ino House*.

therefore “ideological”); a concept of architectural “space” that is ultimately a translation of a new social and cultural order that is freer but, nonetheless, no less strict and essentialist in its different manifestations.³¹

This new “multi-centric” reality was in no way intended to refer to an anarchical or “chaotic” ensemble, but rather a fragmented “whole” where the elements, although independent and spread out, still remain closely linked (one and the other, one to the other, and one with the other) by a superior cohesive “intention” or “framework” – or structure – that serves to ensure the fixed and stable definition of certain predictable, “prefigurable” and, therefore, “prefigured” results.

In short, predetermined.

In this sense, the free plan introduced by the modern movement did not imply anarchy or a negation of order; rather it was configured, in turn, as another kind of technique of spatial position and composition – characteristic of the early 20th century – which appreciated the Cartesian coordinate system and, therefore, the functional correlations among spaces, more than their juxtaposition and alignment.

Rejecting textural or constructive subjections or those associated with symbolic continuity, the pieces were ordered in response only to functional, plastic and/or typological needs, although they were rationalized with regard to their respective positions (and productions) and with respect to a specific referential planimetry.³²



A conception that was intended to illustrate the transfer from a “compositional” relationship among things, to a more positional one.

The horizontal and vertical planes and their relative coordinates, as basic elemental – “rational” – geometries, became the basic mechanisms for this abstract spatial definition based on the strength of the vertical vectors – volumes 3D – and their set organization on the horizontal plane.

Like a “blank canvas” where the object, the new subject, often appeared to be “posing” fixed in its relative and relativist position.

Indeed, a number of authors³³ have pointed out the importance of overcoming the most figurative and iconic aspects of form and its substitution with this tendency toward a new “objectual” abstraction that is characteristic of modern architecture: in short, the transfer from a formal (and symbolic) fabric to a more functional (and material) “objectual” mechanism.

The idea of a binding position, and the associated typological dimension, proposed the two basic parameters of this new essentialist (reformulating and establishing, at the same time – fundamental and foundational) conception of the architectural object-type.

Thus, the relationship between the building-volume and the ground – deposited and/or posing i.e., positioned – defined the implanted nature of the object-type (supported on, cut out against, leaning toward, run aground on) and its reference to the possible predefined planimetric and dimensional framework.

And modern architectural research, and the neo-modern research that came after, moved within/between the limits of both concepts.

Both classical space and time and modern space-time manifested a readily apparent desire for substantive stability (or “false movement”) and inherent control that were more solemn or severe, more ceremonious or strict, but no less totalist and deterministic in their mutual desire for coherence. And no less static in their intent toward fixation.



6.32. Dancing buildings. Manhattan's architects perform, (in Rem KOOLHAAS: *Delirious New York*, ed. 010 Publishers, Rotterdam 1999).

6.33. Kazimir Malevich: *Suprematist decorations, city. Moscow, 1927 reconstruction.*

The virtual compactness of classical binding composition is substituted in the modern productive mechanism with the autonomy of the built object, “set” and/or “posing” – positioned – against a more or less neutral background. It is worth comparing the “dance of skyscrapers” described by Rem Koolhaas in *Delirious New York* with the Suprematist pieces created by Kazimir Malevich for a new city.



The modern city implied the fracture of the old singular and compact space in the face of a new functional logic – and a new productive mechanism – that substituted the ritual with the typological; the continuity of the (2D) plane with the correlation of (3D) volumes in relative positions of implantation in space.

6.34. Ludwig Hilberseimer: *Project for the new Berlin/Friedrichstadt*, 1928.

(in V.V. A.A. *Visions urbanes*, ed. CCCB and Electa, Madrid 1994).

6.35. Margherita Spiluttini, *Glasgow*, 1993. "Fragmento". (in *Daidalos* no. 50, 1993).

What was symbolic in one, is functional in the other; what was figurative then is structural now; what was compact there is spread out here.

What was essential then, is material now. What was pure, is purist. Between the notion of classical composition and the modern idea of position, two models for the (com)position of architectural space can be distinguished: one is more static and one is more stable, proposed based on (classical) cohesion and continuity or based on (modern) fragmentation and discontinuity.

In this sense, where the historical city – the traditional fabric – illustrated the paradigm of this "foundational continuity" that was characteristic of the classical ideal – the "center" as a radiating and nuclear reference point, the modern city – fragmented and peri-positioned – implied a forceful break with the old evocative and ritual space in the face of a new objectual and material logic linked to a greater mechanical and functional rationality in production. A materialist space, rather than a symbolic one; discontinuous and specialized though still precise in its manifestations.

A typological space, then, that was meant to substitute the apparent with the structural, the code with the type; the continuity of the (2D) plane with the correlation of (3D) volumes in relative positions.

An essentially "abstract" scenario. Universal.

More strict than ceremonious, more severe than solemn, more purist than pure.

Probably because modern rigor was a substitute order (a new order) that was refined (abstract) and systematic (universal) but no less totalitarian and deterministic in its desire for coherence; in its inclination toward complete and unambiguous planimetries; toward a "static" vision of objects – and their establishment – in space. Fixed, "determined" and self-sufficient, but with hardly any capacity for adaptation, change, evolution or relation, which are today faced with the conditions inherent in a new kind of surrounding that are more anarchical, more exhaustive and undisciplined, which are difficult to adapt to the static and watchful patterns of orders that are overly strict and homogenizing.



6.36. Ipanema beach, Rio de Janeiro (archive).

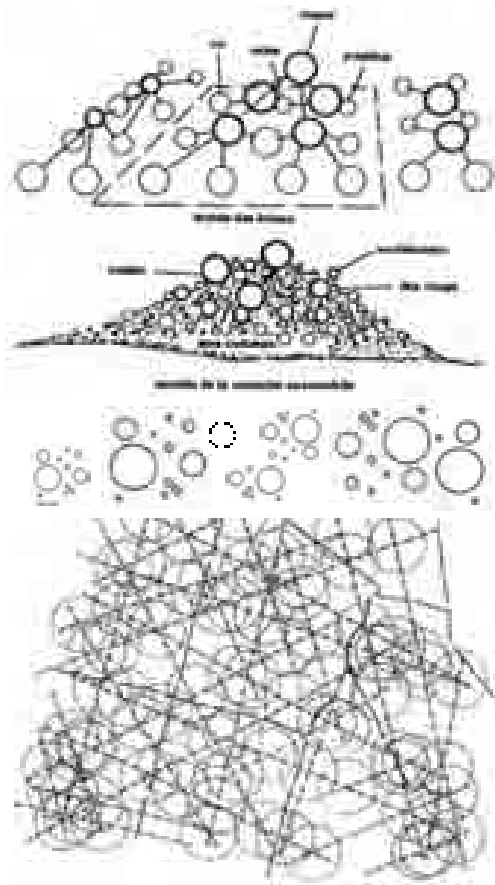
XI. Dispositions: Space-Time-Information

We continue to use – in architecture as well – the remnants of this modern and determinist – (pre)determined – conception of the idea of order – positional, linear, essential – in the same way that, as we indicated earlier, we continue to use old scientific laws – the law of gravity or of relativity – which are still “functional” in general terms, but which are hardly operative when it comes to measuring the true complexity of the phenomena that we now know define our environment.³⁴

We have already commented how the theories of complexity and the study of dynamic and interactive systems have introduced more permeability into our idea of order: the multiple open trajectories in and non-linear process of development are no longer “formalized” as absolute, invariable and unique results; rather they are “formulated” – “outlined” and “announced” – as relational processes that are intrinsically evolving. Processes that are translated into virtually dynamic configurations, as opposed to static ones, combinatory rather than positional, whose movements and maneuvers “synthesize” (“map”, “diagram”) their own (multiple) trajectories and their future (and potential) evolutions.³⁵

Throughout the past century, we have witnessed the transfer from classical space and time – absolute, exact and regulated, but also apparently eternal, metaphysical and ritual (based on the “harmonious” aesthetics of evocation) – to a modern space-time – more discontinuous and fractured, more relative and material (derived from mechanical, functional and productive rigor).

Against the traditional idea of order that had influenced the classical interpretation of space (based on the idea of composition as a hierarchical relationship, but also as a cohesive, closed off, predictable figuration between parts),³⁶ modern thought had presented an alternative “new order” associated with a relativist interpretation of space and time, based on spatial position as a freer, though no less strict –



6.37 Two fuzzy logic diagrams. In the world of chess, there seems to be the possibility of drawing a network of relationships; in the case of driving a car, a similar attempt rapidly evolves into an unbounded mass of possibilities (in *L'Architecture d'Aujourd'hui* no. 321, Un Studio, 1999).

6.38. It is interesting to compare those diagrams with the frameworks for open clusters. Each one expresses a space-time combination whose interaction leads to another recursive combination, on a larger scale.

6.39. Sequence of locations connected by underground veins. "Structural Trends of Gold Mines in the South Western United States" (archive *Fisuras*).

measurable – link between objects. Position as organization, but also as an unalterable, affiliative principle (in harmony with the "ideological" – dogmatic – moment of modern space-time) that is more fragmented, though no less deterministic.

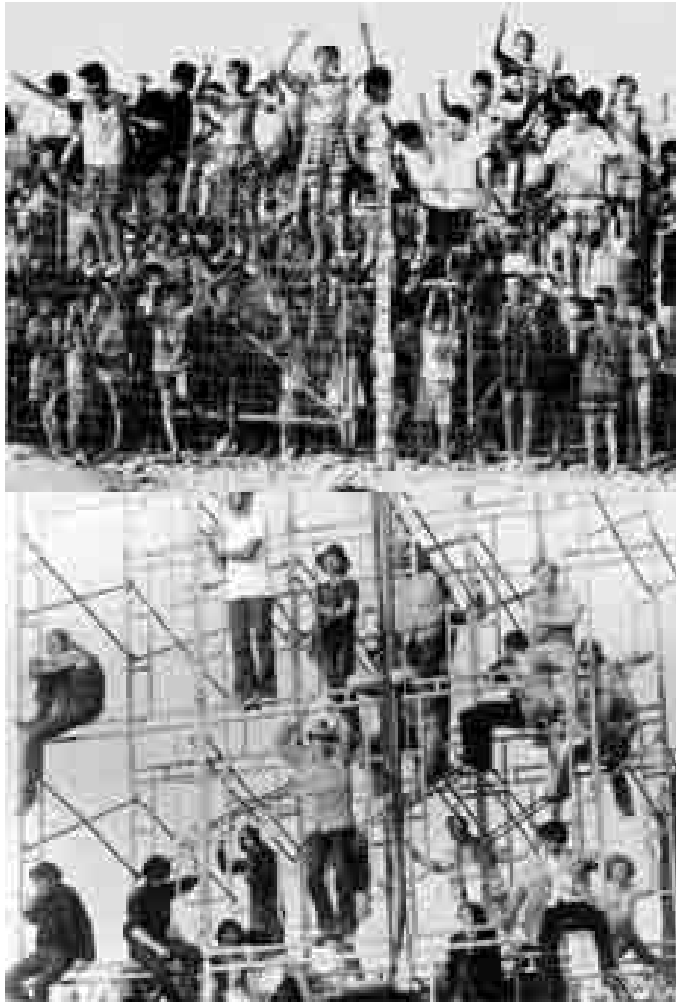
Contemporary space-time emerges, however, as a progressive unprejudiced and changeable landscape, open – as we have pointed out – to the global force of individuality and contingency, but also what is informational, infrastructural and elastically relational.

A space-time of interconnected – and/or interconnectable – messages which possesses, in information and in its open capacity for interaction, a new dimensional vector.

A combinatory and differential space-time-information; informational, then, rather than essential or material; digital rather than analog or mechanical; operative rather than ritual or functional; probably rather than regulated or exact; tactical rather than symbolic or dogmatic; changeable rather than "eternal" or fragmented; reactive rather than "evocative" or "autonomous"; interactive (simultaneous and multiple) rather than absolute or relative.

The contemporary paradigm shift, and the new idea of time associated therewith, favors the manifestation of this new – more elastic – "inform(ation)al" order, no longer based on compositions or on positions, but on dispositions; dispositions that are open to variation, to individuality and to diversity, but also to an exchange and an interaction that are both global and local at the same time.

Where modern space, in its day, implied the transfer from the idea of composition – as regulation – to that of position – as correlation – contemporary space today displays this new transfer from the idea of position to that of disposition: as an operative "decision/instruction", but at the same time also as a possible combination of "negotiated" positions and information and as a dispositional "attitude" and "aptitude".



6.40. Julio Carbó: Children cheering atop a fence in a refugee camp in the Balkans.

6.41. Woodstock, New York, 1969 (in *1960s: The Hutton Getty Picture Collection*, ed. Könemann, 1998).

A flexible and operative “negotiation” where the very idea of order as “stabilized control” has made way for a new more “unstably” relational understanding.

The contemporary capacity for connection and interaction between the physical and the virtual, i.e., for combining and processing multiple and differential scenarios, messages and information, lends a new importance to the idea of change as (inter)change (between layers of information) and, therefore introduces increased complexity (and impurity) into this progressive capacity for interaction between “codes”, messages and “demands”.

In summary: if the object of classical composition was the (symbolic or metaphysical) reproduction of what came before, and if the object of modern position was the (functional) production of what was new, then the object of contemporary disposition is the (interactive) co-production of what is simultaneous, the real and the virtual.

A process that illustrates the transfer from fabric to object and from object to relational milieu (or field).

2D (compositional) plans and 3D (positional) volumes are bent and stretched into 4D topological surfaces and landscapes that fold, refold and unfold their trajectories in dynamic processes, rather than static events.

From a predictable vision of the Universe, we have moved toward a measurable vision that is also differential, defined on the basis of complex trajectories with variable topologies and (the associated) more open, flexible and spontaneous configurations.

Dynamic configurations (trajectories) rather than static figurations (outlines).

Informational trajectories that can only be represented “as” and “from” maps of (possible) movements associated with processing and organization: open, evolving maps, adapted to distributive processes and virtually fluctuating, whose form – at any given moment – is that of an incomplete development, on stand-by, in an implicitly unstable balance. In process.



The contemporary paradigm shift promotes a new type of "informal" – for "informational" – order, no longer based on closed compositions or positions, but on open dispositions: evolving trajectories – and multiple combinations of movements – adapted to flexible and generic logics, which are altered and modified as the impact of local – specific and contingent – information is expressed within the global structure and configurations.

6.42. Open disposition of a group of children playing on a fence.
Manuel Gausa de Mas, photographer: Fence on Somorrostro beach, 1960.

Trajectories that are actually or virtually evolving, as intermediate representations of other – multiple – movements, both before and after.

The notion of disposition as an open trajectory (configuration, distribution or unfolding, as the case may be) is especially apt when it comes to analyzing the heterogeneous structures that are derived from this idea of order.

In this sense, we have felt it appropriate to use the word “disposition” here, due to its multiple suitable meanings:

- Disposition as an operative instruction and/or decision, a criteria for decision and organization.
- Disposition as a positional and informational configuration, as a combination of positions, or stances, oriented in space – which are actually and/or virtually evolving, derived from a strategy for processing stimuli and demands – i.e., as a (dynamic) “formulation” rather than a (static) “formation”.
- Disposition as a general “agreement” or “negotiation” between specific events and general structures (i.e., as organization or the “notion” of organization.”
- Disposition as “form” and as “order”, but also as “aptitude” (preparation for action) and “attitude” (mood with respect to action, to change).

An active and activating logic.

- Disposition, ultimately, as a contingent and systematic structure at the same time, defining fluctuating (spontaneous or “virtually spontaneous”) movements and events that are associated with synthetic formulations and evolving patterns – with generic “nuclear” criteria and specific “unfolding” movements – which are also adapted to concrete situations and/or surroundings.

Dispositions, then, understood as local/global informational trajectories: local declinations (answers) associated with global “systematics” (criteria) expressed as dynamic, flexible and adaptable configurations and intended to promote trans-scalar phenomena of recursiveness with the potential to bring contemporary design in tune with the recurring characteristics

(and parameters) of the – meta-structural and meta-urban – space-time processes with which it is involved.

Dispositions, then, as adapted spatial structures, required to fluctuate, change, alter and quaver, and to express an open and vibratory character, in themselves, where the degree of complexity (i.e., of diversity) increases along with their ability to multiply or combine exchanges between levels – or layers – of movements and events.

This alludes, as we anticipated in our analysis of the new urban structures, to a new concept of “order” (as an organization or a flexible contract) based on elastic and multiple relationships, rather than categorical links.

A dispositional order that no longer has anything to do with the old totalitarian, “absolute”, continuous and stable notion of the classical “compositional” order, or with the more relative and fragmented modern idea of “positional” order, which is equally deterministic. Rather, it refers back to a more open and uncertain conception of the idea of order as an open disposition: as an operative (both flexible and vectorized) agency, made up of “diverse” – and not always harmonious – messages related to generic, abstract logics and specific, contingent stimuli.

We could continue to assert how classical space and modern space-time have been replaced by an inform(ation)al space-time with the potential to create greater instability and indetermination – greater informality – in our understanding of the universe but, at the same time, capable of relating it to a field of impulses and stimuli in a constant global interaction: in a constant situation of “suspense” between the predictable and the unexpected, the generic and the individual, what is controlled and what is distorted; again, the global and the local.

If the paradigm of a static system is stability and coherence is its form (as part of a closed equilibrium and pre-established parameters of control), the nature of this possible dynamic order resides in this condition that is oriented and indeterminate at the same time, based on “open parameters” that are far from balanced.

The old compact, defensive and concentrating or fixed and static geometries make way now for others that are more disperse, dynamic and irregular (which translate a more impure, indeterminate and “informal” order) whose undisciplined and diffuse nature increases along with its capacity and freedom for movement – and shifting – and the degree of interaction among individual events and global logics.

Our challenge, as architects, is to produce new dispositions for action adapted to – and in recurrence with – the stimuli that belong to this “new” paradoxical, global and local order in a constant situation of substantive “suspense” and “instability”.

To conceive open dispositions – rather than predetermined figurations or forms, rather than closed off compositions or positions – associated with actually or virtually evolving processes referring, in turn, to precise logics of “option/decision/instruction/combination” which are also sensitive to circumstances.

It is not merely a theoretical or cultural option (tied in with the assumption of a possible cross-cutting and multi-scalar reading of our milieu), but rather a purposeful action intended to favor a more positive reaction between virtually “interactive” process (in potential resonance and/or synergy).

The concept of an open disposition, derived from the notion of disposition itself, is in turn introduced with its multiple and ambivalent connotation: as an instrument (processor), as a logic (strategic) as a decision (tactical), as a mechanism (restructuring) and as an operating system (generating, organizing and formalizing at the same time): as such, a receptive field and an emissive field within another host “field”.

Disposition, then, as a strategic and tactical operation: a relational, reactive and reactivating (“reaction” and “activation” combined, interpreting in turn the term “reaction” as a cross between “relation and action”) trajectory intended to evolve in space, acting as a vehicle – and a link – between synchronous information and prompting – generating and producing – relationships and movements of exchange between energies, uses, programs, events, scales and/or scenarios which are subject, by their very nature, to dynamic (i.e., open, evolving) processes.

We have already referred to this possible conception of design as a dynamic (or virtually dynamic) “operating system”; i.e., as an abstract program that is capable of evolving and transforming inside (an)other system(s) which are also actually or virtually dynamic.³⁷

In this sense, we prefer the term “disposition” to “system”. Although we tend to talk about dispositions as systems that organize form, its definition allows for going further than the term “system” (related, at some points of the modern period, with the primacy of structure – as a global framework – or with the mechanical and reiterated repetition of production), bringing it closer to the concepts of combined infrastructure and infostructure, understood more as possible adaptable matrices of information and organization, rather than rigidly (pre)figured structures – or outlines.

XII. Open Devices (*Dispositifs*) and/as Operating Systems

The ambivalence generated around those terms ("system" or "device" as a "*dispositif*") emerges from its relative proximity to some of the concepts proposed, in its day, by Structuralism. This is not a mere coincidence; there are elements of Structuralism in this new point of view, but it is also overcome clearly and decisively, based on the assimilation of the idea of structure itself with the concept of a flexible and variable network – original and driving.

The idea is not to propose strong frames – such as rigidly binding superstructures of *production/seriation/connection* – but rather flexible and adaptable assemblages (*agencement* is the term used by Deleuze) associated with informational organizations with the potential to process diverse and variable information – of an interactive nature – and to "bring them into agreement" in contracts and co-participatory movements: *dispositifs* as global, abstract instructions (logics or "criteria for decisions", orders) and as local, i.e., concrete configurations (maneuvers or "decision making", forms).

Rather than "adherent systems" (the mechanical and strict union of components), we deal with "operating systems" ("processors" and "programmers" of information) associated with open logics (inductors and conductors of combined and combinatory processes) and "info"structural and "infra"structural patterns (as flexible matrices): synthetic trajectories (inductors) and evolving trajectories (generated and generative).

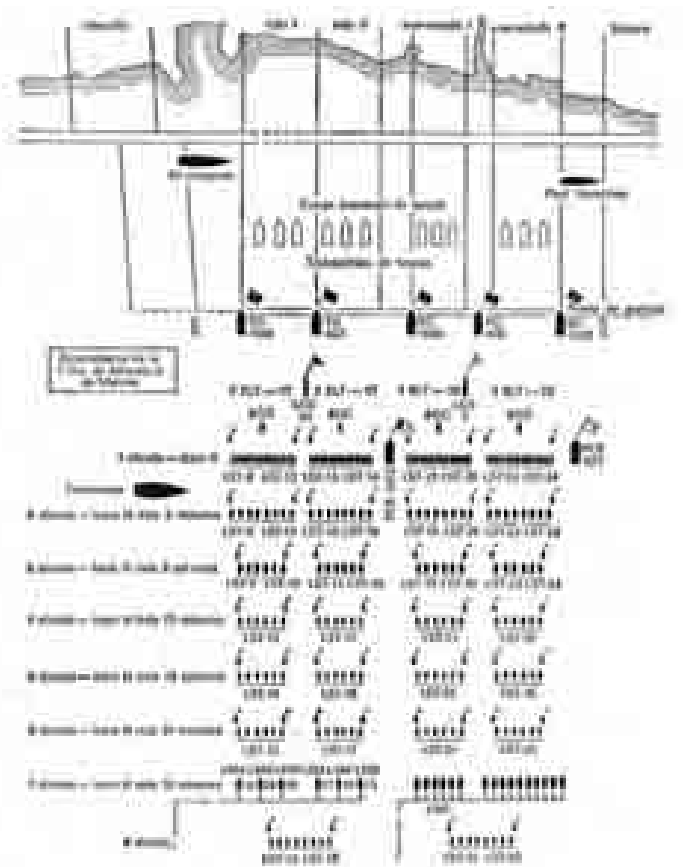
The term system is interesting, then, more as a logic of linkage, a pattern or an open, informational environment (a field of forces and maneuvers) rather than as a closed off design (a mechanism or an artifact).

We will refer to (open) *dispositifs*, rather than (closed) designs.

– *Dispositifs* put forward based on (and as) virtual battle maps in a place, with the potential to fold, unfold and refold – strategic and tactical – movements and trajectories in a virtual "field of forces and maneuvers"; thus relating simultaneous information,

tensions, and demands.

- *Dispositifs* put forward, also, as operating systems, with the ability to "process" data and demands, to synthesize stimuli and to diagnose responses. But with the ability to "activate" process, to generate form and to spark activity.
- *Dispositifs* that could be interpreted, then, as logics for action and relation, for reaction and activation at the same time – reactive – understood as active fields with the ability to synthesize conditions and information, to react with respect to a place and to cause it to react at the same time.
- *Dispositifs*, then, with the ability to resonate (to interact and attune) with the conditions and energies of the context (the data and the specific parameters – program, flow, magnitudes – but also the real, concrete, sensory scenarios, of action) and to transfer them, at the same time, beyond their own limits, not only toward other more qualitative "states", but above all, toward other real and virtual conditions, scales and potentials.
- *Dispositifs*, ultimately, where the induced "logic of action" leads to concrete dispositions – trajectories – displayed as possible configurations of a virtually open process tied in with a hypothetical catalog of sequences and/of movements made up of variations, combinations and permutations – or perturbations – which are substantively inconclusive.
- *Dispositifs*, finally, as instruments and as systems for arranging and mobilizing; as logics of decision (and decision making); as frameworks (and criteria) for organization; as guidelines (and as matrices) for relationships; as fields (and environments) for reaction: as (tactical) operatives and as (strategic) operations.



Battle maps as “strategic dispositifs” and “open dispositifs” as battle maps.
6.43. Landing in Okinawa. Tactical disposition of U.S. troops (in Hans JACOBSEN and Hans DOLLINGER: *Der Zweite Weltkrieg in Bildern und Dokumenten*, ed. Kurt Desch. Munich, 1963.)
6.44. MVRDV: *Combinatory diagrams and urban matrix*, Hornse Kwadrant Delft, 1996.



XIII. Operations, Operators, Operatives

Each disposition generated in this way does not represent an essential, unique and univocal affirmation; rather it synthesizes a wide sequential range of other possible combinations that operate based on similar organizational and generative fabrics, folding, refolding and unfolding (3D) volumes and (2D) planes and in actually or virtually topological (4D) fields or landscapes, braiding, clustering, winding up, but also trimming, stamping or hollowing out space.

In other words, arranging decisions (logics of decision) and distributions (trajectories of position) into contracts and/of spatial movements (i.e., into strategies of mobilization) understood as form(ul)ations – formations as configurations and formulas as instructions or proposals – referred to two overall “operating fields” which can be interpreted as scenarios for basic investigation and configurations. The following dynamics are found among them:

- 1– A scenario that prioritizes a certain “strategy of form” and that operates using essentially combinatory processes of organization, i.e., based on operations of arrangement and combination between information (groups of factors) regarding permutation (sequences of factors) and variation (evolutions of factors) which are preferably associated with coupled or linked and networked structures of movement.
 - 2– A scenario that prioritizes a certain “genetics of form” (generative) that operates, fundamentally, based on morphogenic processes of development and processing, i.e., using evolving operations of fluctuation, mutation, variation and/or configuration which are preferably associated with topological structures of make-up.
- In the first case, this scenario mainly refers back to geometries of spatial combination and conjugation that arrange different and flexible strategies for networks, guidelines, twinning, stacking and/or “spatial unfolding”, taking its multiple (as a set) and sequential (rhythmic) condition to an extreme, in the form of preferably “articulated” structures. Thus promoting

guidelines – and correlations – of movement.

- In the second case, these scenarios refer to geometries of spatial evolution and mutation, which drive developmental processes associated with elastic strategies of fluctuation, which maximize their matrix-like condition of genesis and evolving induction, by way of preferably cast or shaped structures.

Promoting patterns – or matrices – of movement.

This could imply, then, that where so-called combinatory logics tend to favor the superposition of negotiated (or articulated) events in combinatory interwoven (or intertwining) structures associated with heterogeneous ensembles with established arrangements and developments, generative logics do so based on the development of fluctuating or networked structures, associated with variable ensembles of topological generation and development.

Whereas in the first case, we would talk about data maps that are conjugated and combined based on variable sequences of events, in the second, we would talk about data maps that are processed and generated based on changing series of movements.

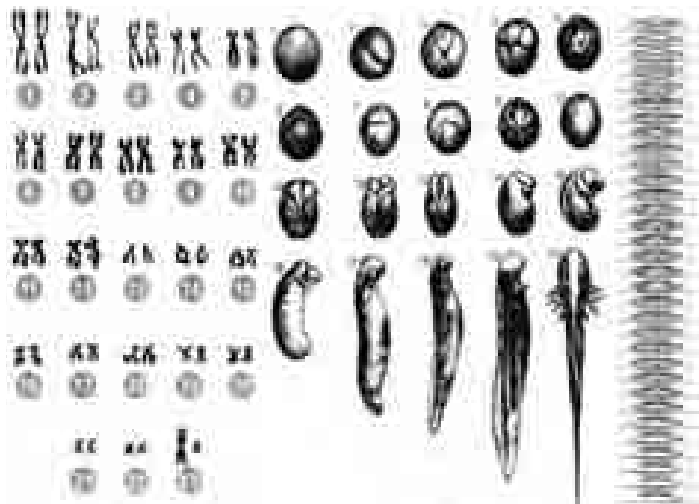
In both cases, we recognize a positive assumption of diversity (and the associated irregularity), which lies at the very foundation of those potentials.

- 1- On the one hand, the diversity (or irregularity) that we could call negotiated – or relational – and which alludes to combined strategic processes of articulation (and hybridization) between different families or systems of morphological or structural codes.
- 2- On the other, the diversity (or irregularity) that we could call genetic and which alludes to the possible variable development (or evolution) of the same evolving and/or infrastructural pattern (or family of patterns).

And, lastly, we could define a conjugated or shared diversity, which would bring together both at the same time, in a co-participatory manner.

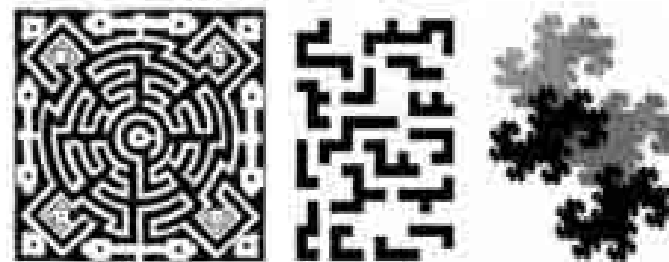
These are parameters that allude to the irregular – “impure” –

nature of contemporary design, which has the potential to promote multiple interactions between diverse, distant or disparate – i.e., diachronic – tensions and demands, via linking *dispositifs* which are increasingly operative as they are increasingly more synthetic – i.e., synchronous. The efforts of architectural research at the turn of the century tended to move between the two logics, exploring, maximizing and arranging their potentials in variable combinations, ultimately intended to celebrate and articulate both complexity and diversity at the same time. If the aim of the classical labyrinth (metaphysical, absolute and exact) was to try to describe a single ritual path within a unitary, compact, essential and hierarchical line (a closed composition) and if the possible alternative of the modern labyrinth (mechanical, objective and precise) consisted in the fracture of this absolute drawing and its substitution for a discontinuous,



fragmented, but no less stable set of pieces positioned in space (a functional position) whose object was to describe the planimetry of spaces that are (co-)relative, the contemporary labyrinth (interactive and differential) emphasized the multiple combinations, evolutions and bypasses in a wide range dynamic and irregular of “dispositional trajectories” that no longer emphasize the possibility of recognizing a unique “path” or a regulatory plan, but the very “generative process” that inspires those trajectories.

Complexity in the contemporary labyrinth does not come from (classical) repetition or (modern) fracture, but from the dynamic processing and procedural (informational) dynamic apparatus of singular events which are also intertwined. Singular and systematic at the same time.



Outline labyrinth (composition)

Planimetry labyrinth (position)

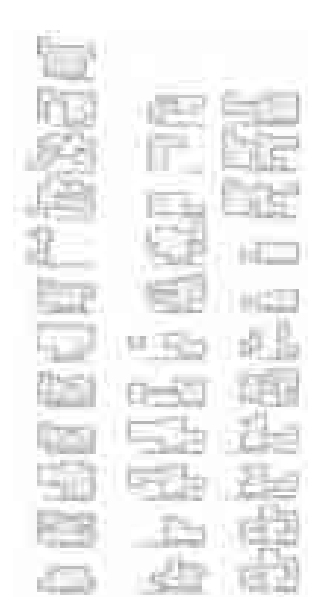
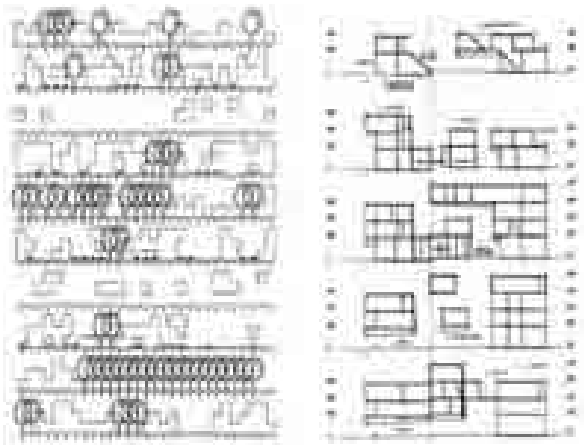
Process labyrinth (disposition)

Left: various evolving sequences. In most of the genetic *dispositifs* considered, there is an underlying idea of flexible order to the conception of a “topological” criteria for action.

6.45. Evolutionary genetics (in *Arch* + no. 119/120, 1993).

6.46. Sequence and series as variations in a chain of forms: 23 pairs of chromosomes

6.47. Sequence and series. FOA: Yokohama Ferry Terminal, 1996.



Various examples of open *dispositifs* and chains of events produced by combination and permutation on top of generative frameworks without an apparent scale.

6.48 and 6.49. MVRDV: *Urban matrix, Hornse Kwadrant*. Delft (The Netherlands), 1996. Map and general plan // 6.50 and 6.51. UN-studio/van Berkel&Bos. *Study of a residential multi-typology for Borneo-Sporenburg II*. Amsterdam, 1993. Plan and model of the whole // 6.52 y 6.53. Eduardo Arroyo (NO. Mad Arquitectura)- S&Aa (Soriano-Palacios): *Multi-program building. Bolzano*, 1999. Plan and model of the whole.

An example of an open disposition, with chains of event produced through deformation and fluctuation on the basis of "typological matrices".

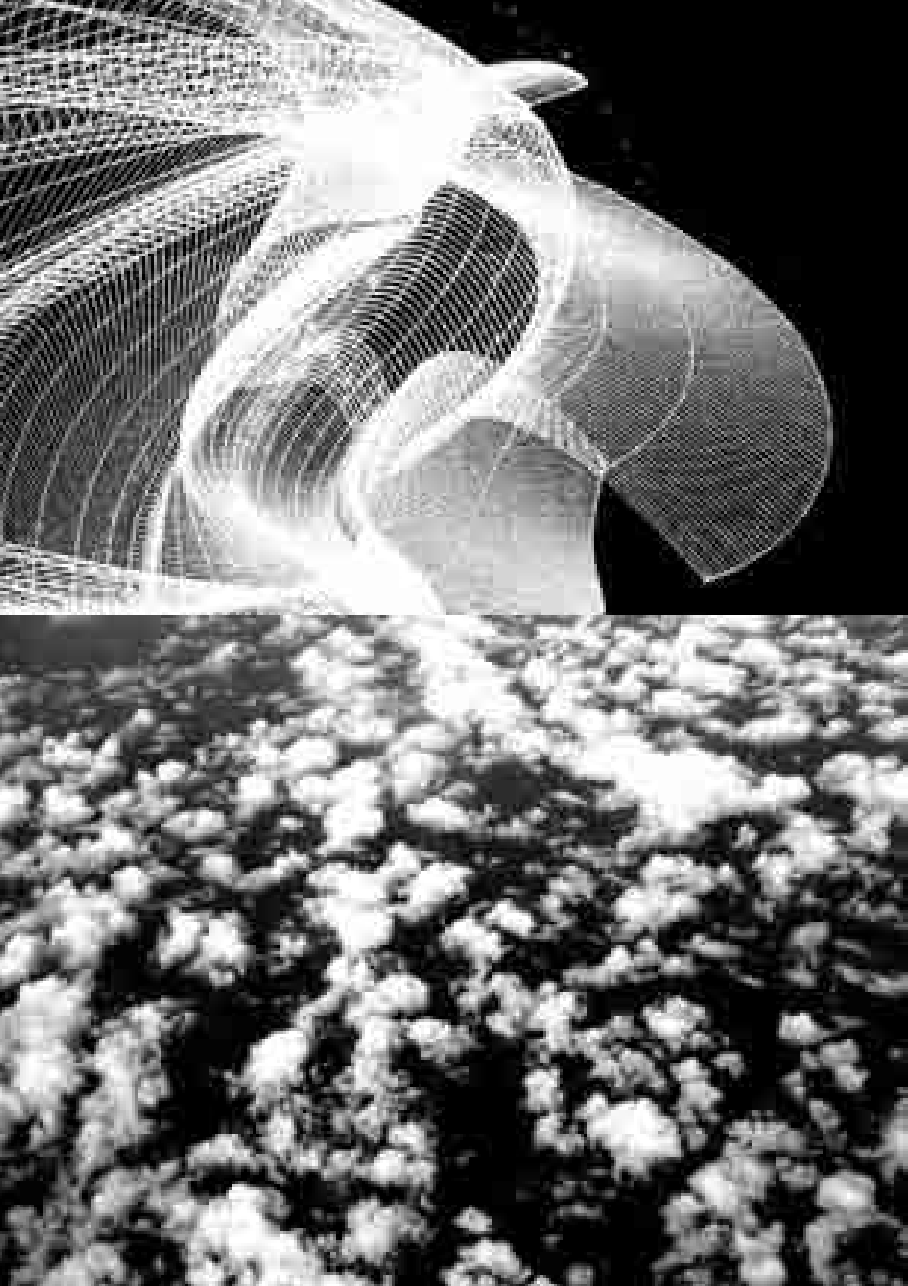
6.54. FOA: Virtual House, 1997. Generative process using a basic pattern.



An example of an open disposition, with chains of event produced through deformation and fluctuation on the basis of "typological matrices".

6.55. Greg Lynn: design of animated genetic forms for the Cardiff Bay Opera House, 1998.





XIV. Questions of Form

One of the central ideas behind this text is acknowledging a conceptual transformation, currently taking place, in the very idea of architectural “form”.

A form associated with a paradoxically more “informal” order (in that it is informational), related to space-time processes and structures with a non-linear configuration (open dispositions). Whereas, up to now we have been focused on the “characteristics” and structural patterns of these configurations – their internal movements – now, we will focus on working out their “character” – the “intrinsic qualities” – of this new type of formal generation that is understood as more “extraverted” both for its relational nature (capable of encouraging connection and correspondences between things and their demands) and its expansive nature (intended to promote multiple and intertwined scalar transfers – internally and externally), as well as for its more intrinsically expressive capacity (explaining and interpreting) and its more permeable and flexible condition (more inclined to diversity).

A more “open” form, precisely because it is more “extraverted”. In this sense, the idea of form we are presenting could be understood as the expression of internal connections and external relationships.

Of virtually dynamic formulations rather than inherently static formations.

Of infrastructural logics and meta-structural information.

Of typologies and infology.



6.56. UNSTUDIO/van Berkel&Bos: a network of topological deformation, 1996.

6.57. Cumulus Limbus: What does a cloud look like? (archive).

6.58. Topological process from a sphere to a donut.

A “form” that is directly linked to the relational and “reactive” capacity (relation, reaction and action) of the contemporary disposition, i.e., its “processing”, “conductive” and “formulative” capacity at the same time (“promoting and mediating”).

A form that pays special attention to the expressive and uninhibited (un-subjected) manifestation of the very processes of interaction (among programs, actions, events and/or situations and effects) that are combined in it.

A form in which this definitive drive for “expansion” and “movement” is underlying, displayed not only in a virtual surpassing of “limits” and “borders”, but in the possible induction/conduction of forces and tensions, demands and information, internally and externally, i.e., in the exteriorization (“outwards”) of the process that is triggered and in the “impact” (“inwards”) of the milieu in which it is inscribed.

This expectancy for change, this inherent restlessness, alludes to a more open condition in the architectural form discussed here, where an unsettling dialogue occurs, based on a difficult tension that, more or less intensely, combines the dynamic and the static, expansion and compression, spontaneity and systematization, evolution and seclusion, as states that are apparently cut off from one another but with are suddenly joined together in a new type of “spatial disposition”.

Delving deeper into the analysis of generic patterns that are characteristic of the dynamic dispositions we have analyzed up to now helps promote the study of this new type of more animated structures, which operate along those boundaries and which “reconstruct the conventional opposition between figuration and abstraction”.

In all likelihood, this more informal form (in that it is informational), which is more apparently permeable, “relaxed” and spontaneous – more open and diversified (in that it is multiple and multiplied), allows for a better reconciliation of generative and combinatory logics in new mixed associations that can give way to unexpected connections between “genuine” images (derived from the form-formulation) and external images (added to the form-formulation).

Possible “flexible contracts” between messages (or information layers) and trajectories (information processes) where episodic elements combine with structural aspects – the “inherent” image and the “borrowed” image – into a whole that is read simultaneously but which, nonetheless, always retains the immanence of a formulated pattern that can be recognized in a global definition.

This overlapping between formulation processes, information layers and levels of expression do not refer, indeed, to the old ideas of “decoration” or “ornamentation” (like aesthetic cosmetics: formally complete and composed, coherent and adherent). Rather, they allude to the ability to combine simultaneous “messages” in a single dispositional structure: layers of reading and exchange which are discernible and independent – synchronic – though they are not necessarily stable or linked to the same dispositional structure.

The rejection of an essential binding unity, in this implicit ambivalence, which is noticeable not only in the dynamic ability to create operative variations, alterations or distortions (intended to change and transform the “appearance”) but also in the ability to generate potential “cohabitation” between structures and codes that are “combined” in the same ensemble for development and appreciation, a new kind of organization that is more decidedly open to impurity.

To an irregular intertwining between disjunctions.

To the expression of a spatial form that is more clearly inclined to be “one and many at the same time”.

A case and a class at once.

XV. Extraverted Form, Form “Toward”. <Ex> Factors

In this new idea of spatial form, and therefore of architecture, we intuit a more nervous and lively character, more agitated and restless, more impulsive and dissipated, more plural and dissimilar, more loose and flowing, more permeable and extensive, more relational and connective, more ambivalent and tolerant, more liberated and un-subjected – or relaxed – i.e., more direct (spontaneous) and mediating (empathic) – in short, more “extraverted”, because it is open and expressive – linked to its own <ex> factors (associated with extraversion):

- 1– Character: nervous (agitated) and restless (animated)
 > Excited and expectant form (excitement – expectation)
- 2– Character: dissipated (impulsive) and plural (differential)
 > Expansive and extrusive form (expansion – extrusion)
- 3– Character: permeable (loose) and transferor/conductor (connective/conductive)
 > Exceptive and expeditive form (exception – expedition)
- 4– Character: relational (synergic) and adapted (adaptable)
 > Expanded and extended form (expansion – extension)
- 5– Character: ambivalent (impure/tolerant) and free (liberated, un-subjected/un-embarrassed)
 > Extrinsic and ex-centric form (externality and ex-centricity)
- 6– Character: mediator (empathic) and direct (spontaneous)
 > Exteriorized and explicit form > Extraverted form (exteriority-explicitness)

Ultimately, we talk about a “trans” form, on the limits of its own limit condition: a form that is “transmitter” and “transversalizing”; a form that is “in transit” with the potential to “transform” and “transfigure”, but also to “transfer” toward other states and situations.³⁸

A form made up of formulations, rather than formations: called on to generate complex processes using basic mechanisms.

A form that is determined and indeterminate at the same time.

Precise and vague. Active and relational (reactive).

Global and local (glocal).

A form that extends beyond the moment (referring to other possible times).

Beyond context (referring to other possible places).

Beyond limits (referring to other possible outlines).

Beyond codes (referring to other possible logics).

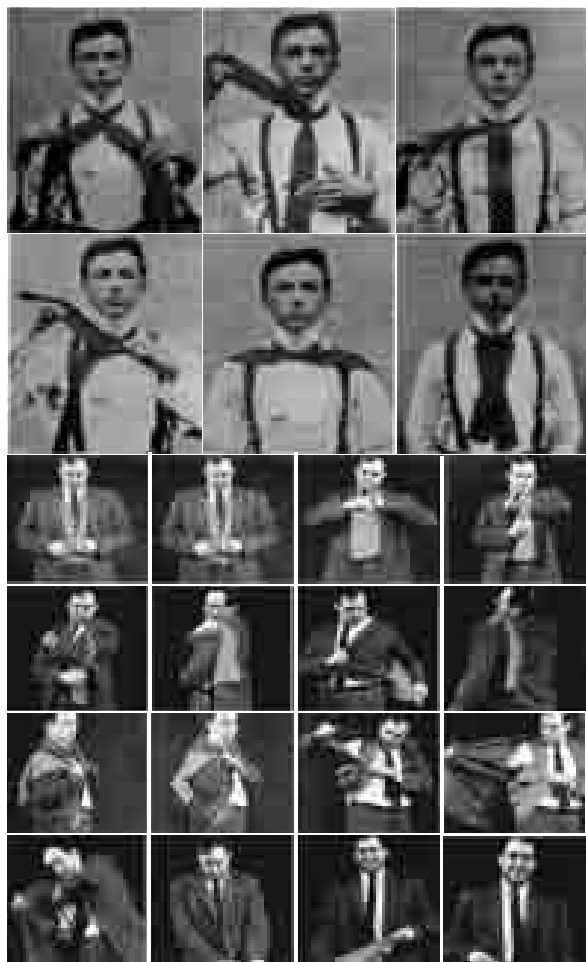
An ex-form (extraverted), that is excited and expectant; expansive and extrusive, exceptive and expeditious, expanded and extended, extrinsic and ex-centric; exteriorized (exulted) and explicit (expressive): that is, extraverted.

A form “toward” that is more open, i.e., more extraverted. Nervous and agitated, restless and lively, impulsive and dissipated, plural and dissimilar, loose and flowing, permeable and extensive, conducive and connective, relational and adaptable, ambiguous and tolerant, liberated and relaxed. A form that is more stimulating than elegant. Expressive. Capable of communicating the interior movements – and tensions – that make it up (its topology) and of reacting to the exterior stimuli that make demands on it.

A new form, then, more **extraverted** for, precisely, more inform(ation)al.

- Called upon to respond to plural demands based on multiple trajectories.
 - To intermediate situations based on limit conditions.
 - To static materializations based on dynamic formulations.
 - To irregular configurations based on impure manifestations.
 - To interactive fields based on reactive environments.
 - To complex conditions based on flexible processes.
 - To concrete figurations based on open logics.
 - To contradictory scenarios based on unexpected relationships.
- Called upon to bring together disparity and diversity with precision and flexibility.

A form – and an architecture – that is “brighter” because it is lively; dynamic and open; explicit and liberated; spontaneous and



Various examples of experiments involving topological surfaces.

6.59. T. FINK and Y. MAO: *The 85 Ways to Tie a Tie*, ed. Fourth Estate, (London 1999).

6.60. DILLER & SCOFIDIO: "Bad Press: Folding, Unfolding and Refolding," (BAU no. 015, 1997).

6.61. *How to take off your suit vest without taking off your jacket.* (in *Fisuras* 3 1/3, 1995).

6.62. *Topological intrigue.* (in S.BARR, *Experiments in Topology*, NY, ed. Dover, 1964).

stimulated (or stimulating).

Decidedly optimistic.

Determined to interact with the world.

An extraverted form, that tends to replace mere functionality with stimulus.

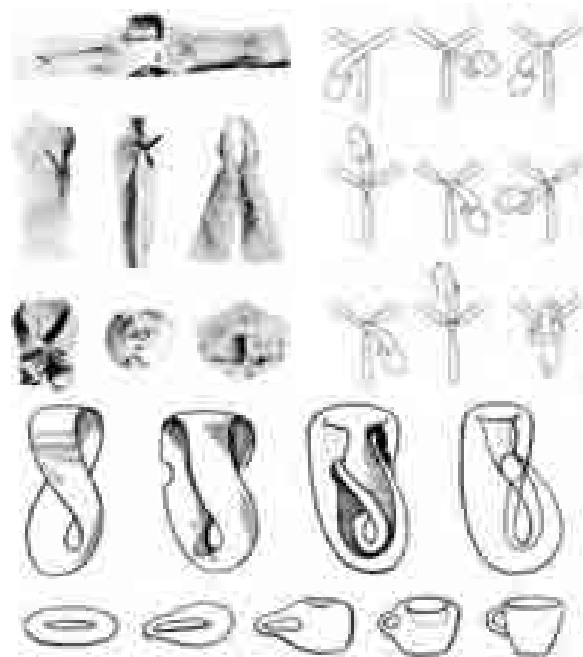
Passive composition with interaction.

Unity with diversity.

Conformation with information

The austerity of compactness and severity with the complicity of "impurity", of mixture and of crossbreeding.

Of the informal, ultimately, because it is informational.



- 1– See ZAERA, Alejandro: "Orden desde el caos," in *Exit* no. 1, 1993, pg. 23.
- 2– See von MEISS, Pierre: *Elements of Architecture: From Form to Place*, ed. Routledge 2011.
- 3– See PALAZUELO, Pablo and POWER, Kevin: "Form as Research: A Conversation," in *Quaderns* no. 218, 1997, pg. 42.
- 4– See GAUSA, Manuel: "Space-Time-Information and New Architecture," in *Quaderns* no. 222 "Spirals", 1999, p.4.
- 5– See SOLA-MORALES, Ignasi: "The Construction of History of Architecture," in *Quaderns* 181/182, pg. 192-193.
- 6– See: GIEDION, Sigfried: *Space, Time and Architecture*, ed. Harvard University Press, Cambridge 1941.
- 7– See HAWKING, Stephen: *A Brief History of Time*, Bantam Dell, New York 1988, pg. 37.
- 8– Einstein's general theory of relativity seems to govern the large-scale structure of the universe. It is what is called a classical theory; that is, it does not take account of the uncertainty principle of quantum mechanics, as it should for consistency with other theories. The reason that this does not lead to any discrepancy with observation is that all the gravitational fields that we normally experience are very weak."
See HAWKING, Stephen: *A Brief History of Time*, op. cit. pg. 90.
- 9– "Einstein never accepted that the universe was governed by chance; his feelings were summed up in his famous statement 'God does not play dice.'"
See HAWKING, S.: *A Brief History of Time*, op. cit. pg. 84.
See DAVIES, Paul: *About Time: Einstein's Unfinished Revolution*, Simon & Schuster 1996).
- 10– "The whole history of science has been the gradual realization that events do not happen in an arbitrary manner, but that they reflect a certain underlying order." The deterministic vision implied the exact predictability of the results.
See: HAWKING, S.: *A Brief History of Time*, op. cit.
- 11– See SAUNDERS, Peter: "Nonlinearity – What It Is and Why It Matters," in *Architectural Design* 9/10, vol. 67, Sept. Oct. 1997.
Paul Davies, op. cit. also contributes to this point:
"The great French mathematical physicist Pierre de Laplace [...] realized that, if all motion is mathematically determined, then the present state of motion of the universe suffices to fix its future (and past) for all time." In this case, time becomes virtually redundant, for the future is already contained in the present."
- 12– See EKELAND, Ivar: *Le Chaos*, ed. Flammarion, Paris, 1995 pg. 107.
- 13– See HELBING, Dirk et al.: "Strukturbildung Dynamischer Systeme," ("Structural Formation of Dynamic Systems,") in *Arch* + no. 121, 1994.
- 14– The form of chaos that Lorenz and other scientists discovered in the 1960s and 1970s [...] began to appear like abstract, colorful spirits on computer screens."
See BRIGGS John: *Fractals: The Patterns of Chaos*, ed Thames & Hudson Ltd., London 1992.
See also EKELAND, Ivar: *Le Chaos*, op. cit, pg. 105.
- 15– See EKELAND, Ivar: *Le Chaos*, op. cit, pg. 105. See also BATTY, Michael: "Sobre el crecimiento de la ciudad" in *Fisuras* no. 5, 1997, pg. 4.
- 16– See EKELAND, Ivar: *Le Chaos*, op. cit, pg. 13-20.
- 17– "The study of deterministic chaos began, in fact, with the work of a meteorologist, Edward Lorenz. His studies surpassed the capabilities of his computer, so he reduced the model to three very simple equations which he believed – correctly, as was later demonstrated – summed up the essence of what was taking place: $dx/dt=10x+10y$ // $dy/dt=28x-y-xz$ // $dz/dt=(8/3)x+xy$."
See EKELAND, Ivar: *Le Chaos*, op. cit, pg. 71.

- 18– "The system is confined to more or less stable trajectories – strange attractors – but its movement escapes us."
See EKELAND, Ivar: "Chaos Exists, We Can Discover It," in *Quaderns* no. 222, 1997, pg. 30.
- 19– See GARCIA-VALIÑO, Ignacio: *La caricia del escorpión*, ed. Áncora y Delfin, Barcelona 1998, pg. 42.
- 20– See MOLINA, Silvia: "El espacio intermedio visual-virtual," in V.V.A.A: *Entorno. Sobre el espacio y el arte*, ed. Editorial Complutense, Madrid 1995, pg. 51.
- 21– See DAVIES, Paul: *About Time*, op cit.
- 22 – "The uncertainty principle had profound implications for the way in which we view the world. [...] The uncertainty principle signaled an end to Laplace's dream of a theory of science, a model of the universe that would be completely deterministic: one certainly cannot predict future events exactly id one cannot even measure the present state of the universe precisely!"
See HAWKING, Stephen: *A Brief History of Time* op. cit.
- 23– See MAE-WAN HO: "The Rainbow and the Worm: The Physics of Organisms," in *World Scientific*, Singapore 1993 and "The Biology of Free Will," *Journal of Consciousness Studies* no. 3, 1996, pg. 231- 244.
See also the interesting article: "The New Age of the Organism," in *Architectural Design* no 9/10, vol. 67, 1997, pg. 44-51.
- 24– See MAE-WAN HO: op. cit.; See also "The New Age of the Organism," in *Quaderns* no. 222, 1999, pg. 150.
- 25– See SAUNDERS, Peter: "Nonlinearity – What It Is and Why It Matters," in *Architectural Design* 9/10, vol. 67, Sept. Oct. 1997.
- 26– See ALLEN, Stan: *Points + Lines: Diagrams and Projects for the City*. ed. Princeton Architectural Press, Princeton 1999.
- 27– See SOSA, José Antonio, GONZÁLEZ Ma. Luisa: "Vacio: deriva y captura," Lecture given in the context of the "UIA-Barcelona 96" congress.
- 28– See von MEISS, Pierre: *Elements of Architecture: From Form to Place*, ed. Routledge 2011; See also the reflections by COSTA, Xavier: "Topometries," in *You are Here: Architecture and Information Flow*, ed. MACBA, Barcelona 1995, pg. 103.
- 29– See TZONIS-LEFAIBRE-BILODEAU: *Classical Architecture: The Poetics of Order*, ed. MIT Press, Boston 1986.
- 30– The concept of relativity, which came into being at the turn of the century in art and science simultaneously, implies that the coherence of things lies not in their subordination to a central, dominant principle but in their reciprocal relations. It states that reality has no inherent hierarchical structure, governed by a fixed centre. It repudiates an absolute frame of reference to be relative instead. But far from being a chaos of unrelated fragments this polycentric reality has a complex coherence in which things, though autonomous, are linked through purely reciprocal relations."
See STRAUVEN, Francis: *Aldo van Eyck's Orphanage: A Modern Monument*, NAI Publishers, 1996.
- 31– See de SETA, Cesare: "L'ordre moderne," in V.V.A.A *Visions Urbaines*, ed. C. Georges Pompidou, Paris, 1994.
- 32– "Space, interpreted in this way, was used as the Modern movement's main weapon in rejecting the forms of the past and the "obligations" to the local context. The theory of relativity, of space-time, together with new technologies and a broader psychological base offered by Gestalt and empathy theories, led to new spatial experiments. [...] The center of gravity shifted, from the morphological model, which referred to architectural 'imitation', to the 'object', the true creator of architectural space."

Part 4

DEVICES (*DISPOSITIFS*)

System, Strategy, Project

- 7 **DIAGRAMS (STRATEGIC MAPS)**
Inductors and Transfers: Scalar Leaps
- 8 **GROWTHS (UNFOLDS)**
SHOOTS and GRAFTS
Growths-Regrowths as Local Accumulators
- 9 **MESHES (REFOLDS)**
KNITS and KNOTS
Meshes-Meshworks as Weaving Circuits
- 10 **TOPOS (FOLDS)**
GROUNDNS and RELIEFS
Topographies-Topomorphies as Operational Landscapes



"In the style of those Renaissance fantasies where visual encyclopedias were laid out, sylloges of the universe. [...] There is no image that, when combined with others, does not embody the mystery of the world."

Umberto Eco: *Foucault's Pendulum*, ed. Harcourt, Orlando 2007, p.274.

I. Abstract Translations:

Diagrams as "Compressions of Information"

One of the most surprising aspects of the "open" scenario of interactions among space, time and information that we have been describing here, lies precisely in the high degree of multi-scalar correlation and translation that can be seen in these growing conditions of change and interchange (social, urban, territorial, etc.).

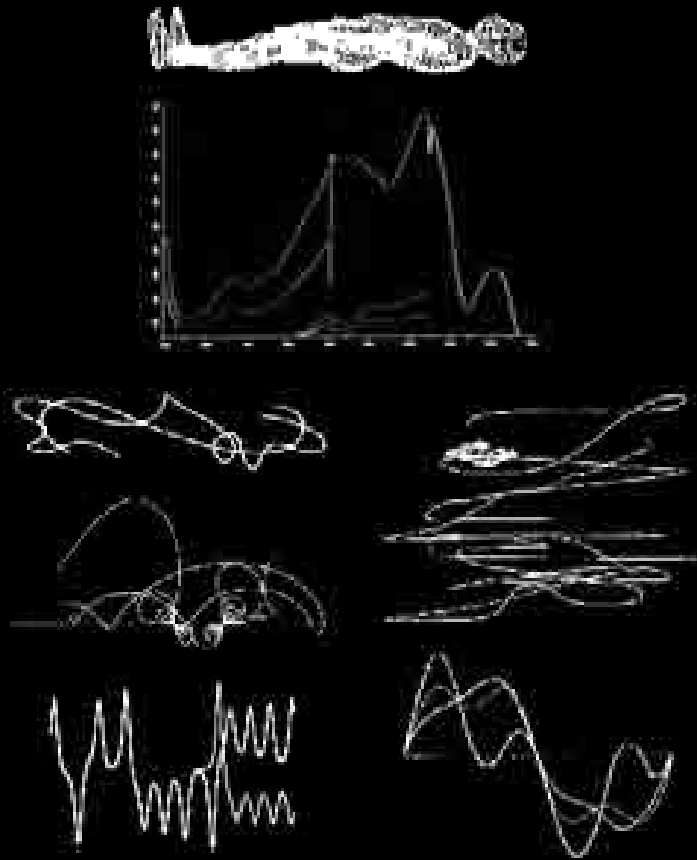
A multiple and dynamic – global and local – state of definition that permanently overcomes the univocal affiliation of processes with antique figurative, stable and/or essential models. Its comprehension – and compression – can only be proposed based on this condition of "multi-dimensional" simultaneity between movements and events that are variable and heterogeneous, though not necessarily coherent (in "negotiated" coexistence, more than harmonious continuity).

Plural movements and events (defined by layers and networks of information) that don't prevent, however, referring the processes to evolving structures associated with flexible vectors of development ("attractor curves", "islands of uncertainty", "development horizons", "combinatory rules" or "evolving patterns") described in possible "trajectories of synthesis" intended to express complex and irregular processes in shorter formulations; "compressions" of the system itself (compressions of its dynamic structures and its operative movements) translated into possible maps – or *diagrams* – of its multiple (and potential) evolutions.

Trajectories that, in turn, translate cartographically simulated

7.1. Battle of Bilbao (T. SALVADOR: *La guerra de España en fotografías*, ed. Marte, Barcelona 1966).

"Decision logic and action criteria": the diagram as a "battle map", a static "simulation" of possible dynamic evolutions.



- 7.2 and 7.3. Pioneering computerized images of a human body.
Scanner map of slices and a synthesized section (in *National Geographic*, vol. 153, no.3, 1978).
- 7.4. Diagram by Paul Klee referenced by Gilles Deleuze in *The Fold*.
- 7.5. Cecil Balmond. Diagram for a possible "informal trajectory".
- 7.6. Lorenz curve, abstract diagram (in Peter SAUNDERS: "Nonlinearity – What It Is and Why It Matters," *Architectural Design* 9/10, vol. 67, Sept. Oct. 1997).
- 7.7. OMA: Diagram for the second Jussieu Library competition. Paris, 1993.
- 7.8. Rectification diagram of a curve of current.

processes (animations/fluctuations) and strategically oriented processes (schemes/ideograms) and whose later transformation leads to virtually dynamic developments (organizations and/as dispositions) characterized by their high degree of substantive complexity.

It is worth highlighting possible "n-scalar" inter-relationships in those structures between "expression", "representation" and "process", and therefore between this capacity for formulative – and operative – synthesis and its own implicit dynamic evolution.

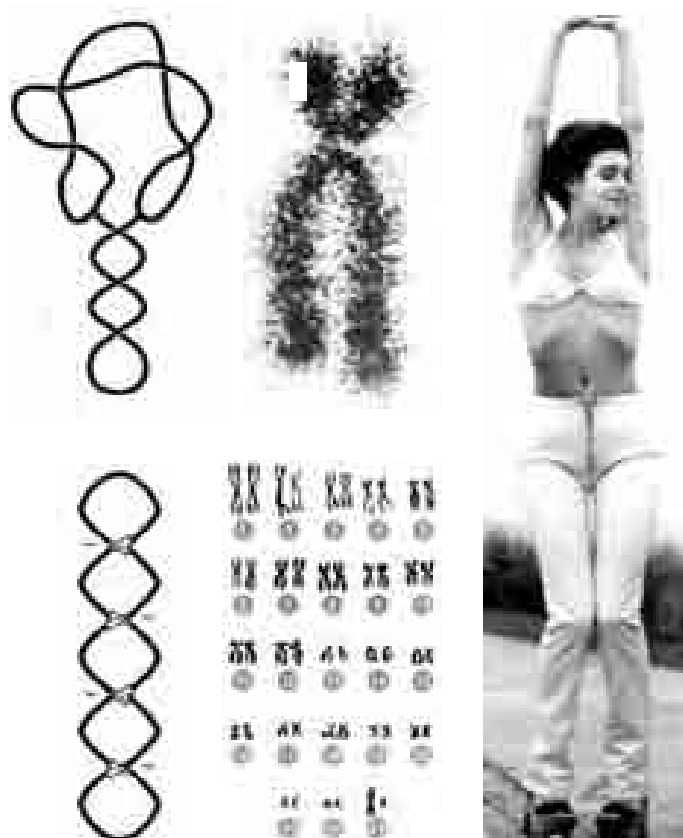
In this sense, it is worth emphasizing the diagram's capacity for synthesis as a virtual "map" or synthetic "cartography", which condensed conditions, requests and movements. In effect, the diagram is the graphic representation of the "progress" of a "process in progress" recorded using "compression", "abstraction" and "simulation" all at once.

In other words, through the formulation of "selective" figures which, like "condensing" trajectories, allow for ordering and transmitting – processing and programming information – as economically as possible.¹

It is precisely in this "economic" – synthetic – property, where the true expressive and operative value of the diagram lies, because it constitutes a nearly instantaneous reproduction of simultaneous factors: a "nuclear trajectory" with the capacity to maintain and express – despite the high degree of reduction inherent in its own concise definition – a "suggestion of totality" as Stan Allen so aptly put it:²

"A diagram is a graphic assemblage that specifies relationships between activity and form, organizing the structure and distribution of functions. As such, diagrams are architecture's best means to engage the complexity of the real. [...]"

Unlike classical theories based on imitation, diagrams do not map or represent already existing objects or systems but anticipate new organizations and specify yet to be realized relationships. [...] [Their]



The idea of a seed – frequent in the analysis of evolving structures – alludes to the possible existence of nuclear information with the potential to evolve through recursive processes of growth, replication, change and variation.

7.9., 7.10., 7.11. and 7.12. It is worth comparing the diagram of the double helix of DNA, twisted around itself, with the image of a chromosome and the photograph of the actress Sean Young, taken by Naomi Kaltman, which seems to be a reference thereto.

7.13. A family of 23 pairs of chromosomes. During cellular division the condensation of chromatin leads to the well-known double stem-like structures.

abstraction is instrumental, and not an end in itself. Content is not embedded or embodied, but outlined and multiplied. [...] Diagrams are not schemas, types, formal paradigms, or other regulating devices, but simply place-holders, instructions for action, or contingent descriptions of possible formal configurations. They work as abstract machines and do not resemble what they produce.”

As a medium – or better, as a transfer – the diagram plays a double role.

It is, on the one hand, a “mode of notation” (of recording and “reflecting” on reality) but it is also a “machine” for action and projection: a generative machination. Synthetic and (re) productive.

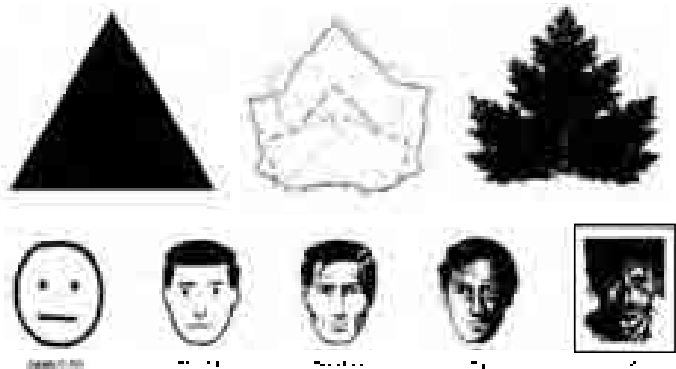
Record and instruction. Analysis and synthesis.

Diagnostic and response.

Trajectory and “map” of trajectories.

A “compressive expression” of (possible) expansive “maneuvers”.

Of multiple evolutions and multiple resolutions, in short.



7.14. Isomorphic transformations between a triangle and a maple leaf (in John BRIGGS: *Fractals: The Patterns of Chaos*, ed Thames & Hudson Ltd., London 1992).

7.15. Mutations of a face. From literal information to synthetic information (and vice versa). (in “Cartoon faces” by Scott McLow, referred to by OMA and cited in OASE no.48, 1998).

II. Codes and Seeds: *Self-Reproduction and Recursiveness*

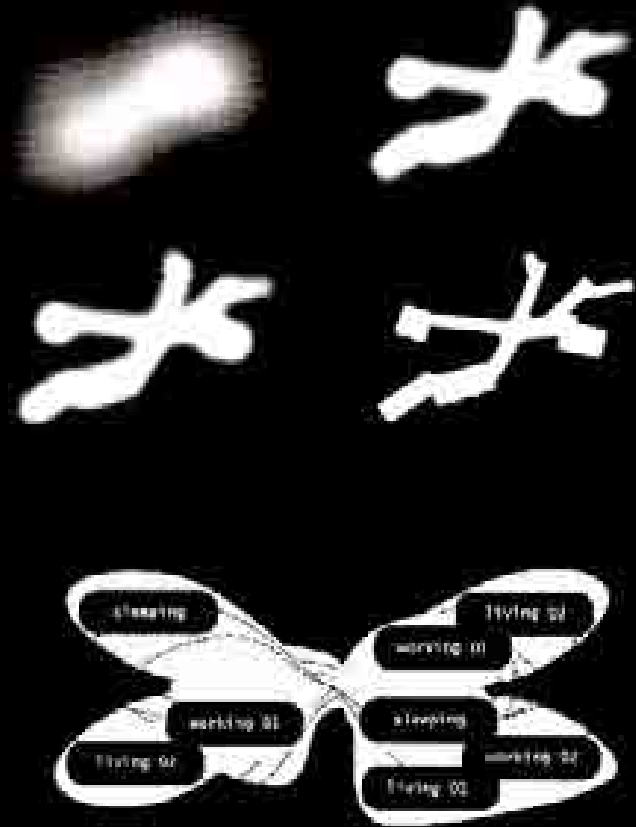
This synthetic trajectory could be understood as a kind of “nuclear criteria” (or “basic seed”) for information and organization, which responds to a two-fold requirement, for evolution and alteration, that is differential and recursive at the same time.

This seminal condition – frequent in computer programming and contemporary musicology³ – alludes to possible condensed strategic “codes” of information – basic criteria – both initial and initializing: based on this “initial water level” the “shores” (or variable channels of movement) establish their own dynamics and evolving movements, in a space of “potentials” and “uncertainties”. However, this initial seed is the only “common theme” that lets us establish a direction for diverse, variable and “irregular” movements – which are noticeably contingent – and yet related to one another nonetheless (“governed” or “guided”) by an “internal rule” that is precise and flexible, direct, variable and recursive all at the same time.⁴

This recursiveness is what allows for prompting new elements based on previous elements associated with those synthetic instructions and which take on an increasingly complex and uncertain degree of definition as their development tends to advance:⁵

“A diagram [...] is not only an abstract model of the way things behave in the world, but a map of possible worlds.”

“Pattern”, “scheme”, “genotype” or “code” are some of the expressions that allude to this trajectory of nuclear information that is synthetic and synthesizing, evoking the implicit potential of “diagramming” basic criteria – or operating instructions – that have the ability to prompt, to promote – and to project – events, although they may not “summarize” them in their totality.



We refer to the notion of a “diagram” as a “seminal” mapping of movements. The diagram would be the synthetic codification of the “course” of a virtually dynamic process represented through “compression”, “abstraction” and “simulation”.

7.16. Gaussian diffusion sequence (in Stan Allen: *Point + Lines*, ed. Princeton Architectural Press, New York 1999).

7.17. UNStudio (van Berkel & Bos): Model for the distribution of uses during a 24-hour loop. Diagram for the Moebius House, 1999.

III. Diagram and Ideogram:

Concept and Instruction, Criteria and Action

A large part of the architecture we are concerned with refers back to this multiple, genetic and generative, active and projective nature, associated with a possible “diagrammatic” logic of synthesis (though it is not necessarily “schematic”), which is explicit in its development, but also complex in its configuration: abstract because it is synthetic, rather than because it is conceptually refined or polished. “Multiplied” and “multiplying” as opposed to “minimal” or “minimized”.

Where this dispositional condition alludes, on the one hand, to the “instructive” and “inductive” capacity (as a “generative mechanism” for possible evolutions) as well as its implicit (re) active capacity (as a “reactive(ating) mechanism” for the body or the milieu on which it acts), this possible “projective” condition is associated, on the other hand, with the operative nature of the diagram as an “abstract machine” (as it was qualified by Gilles Deleuze),⁶ which also has the potential to anticipate and to feed, to catalyze and channel, simultaneous processes and actions. “Abstract” because it is conceptual and ontologically distinct from material reality; but at the same time “machine”, because it is functional – because, in it, we recognize possible links, connections, internal and external organizations, unfolding and possible “dispositions”. *Assemblages*.

Underlying the term *assemblages* there is the operative quality of a vectorized and flexible disposition which is directed and permeable at the same time, conceived as a tool for organizational – and formal – “negotiation” in and among processes, conditions and situations.⁷

The synthetic character of the “diagram” is demonstrated, then, as the capture of a possible “field response” to a virtual “field of information”; a conceptual, strategic and tactical “diagnostic”; as a “synthetic representation” intended to sum up strategic

“reconnaissance” and tactical “response” into a deliberate “criteria” for action: a selective “conceptualization” of localized, global information.

On the other hand, this potentially “conceptual” (and “conceptualizing”) nature of the “diagram” is generally specified in its associated condition as an “ideogram”, i.e., an “idea-action” (*eidola*), as Federico Soriano would call it.⁸

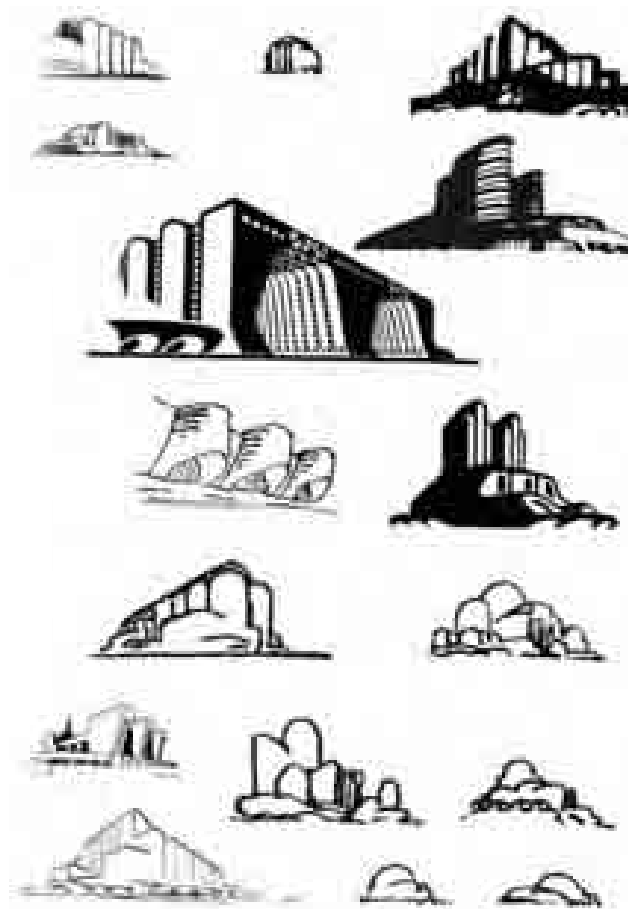
In this respect, diagram and ideogram possess a structural effect in and of themselves, since they allow for synthesizing an amalgam of information associated with a “field of potentials” generated between times and scales and narrated, expressed or communicated at the same time as the criteria for action associated with them.⁹

They don’t represent – or, at least, they don’t only represent – “formal” events or episodes (they are more than sketches or outlines), but rather operative vectors – both strategic and tactical – of movements that are explicitly demonstrated. Diagram and ideogram in combination, then, possess an organizational potential that can be contemplated on a number of levels: as “criteria for action” that are proposed as “diagnostics” (processed responses and reactions to the surrounding) but also as “dispositions” (“driving” and “inductive” mechanisms, codes for instruction/programming and compressive trajectories for a possible operative system) and, lastly, as “narrative” symbols or signs (evolving ideas or concepts that are expressed concisely).

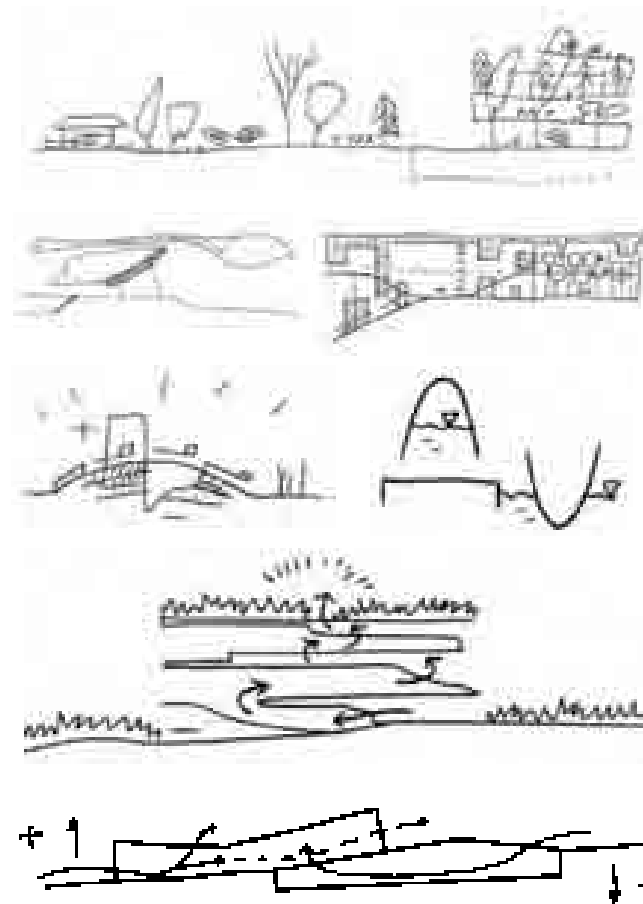
Despite its synthetic nature, the diagram understood as a “driving criteria” is neither a (hierarchizing) sketch nor an (intuitive) outline, but rather a “map”.

A battle map and a negotiation map.

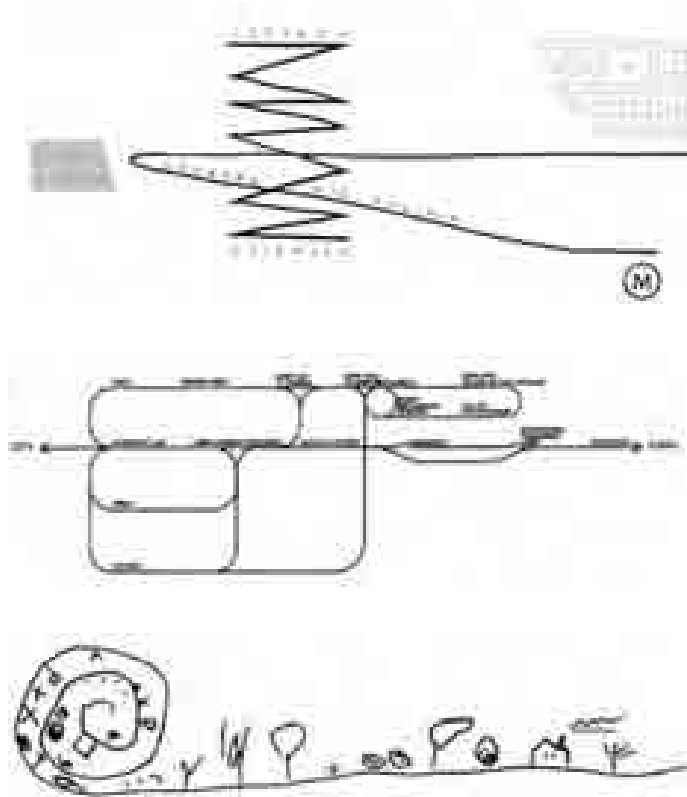
A “cartographic trajectory” of future evolving trajectories; precise in its dynamic reconnaissance, indeterminate in its ultimate materialization.



7.18. Despite its synthetic nature, the diagram is not specifically a (hierarchizing) sketch or an (intuitive) outline, but a "map": in it, "all" the information appears condensed – but not "summarized" – heightening the dynamic potential of the device itself. It is worth comparing the interesting outlines and sketches drawn by Erich Mendelsohn for the *Einstein Tower* in 1917 with the different dispositions/diagrams printed here.



7.19. NJIRIC & NJIRIC. An ideogram for the *Hortus Sanitatis* project, Zagreb, 1997.
 7.20. Cecil BALMOND: Diagrams for the *Chemnitz Stadium* project, 1998.
 7.21. NJIRIC & NJIRIC. Ideogram for the *Yokohama Ferry Terminal* competition, 1996.
 7.22. NJIRIC & NJIRIC. *Folding-Atom Heart Mother*, European 4, Glasgow, 1996.
 7.23. NJIRIC & NJIRIC. Ideogram for the *Yokohama Ferry Terminal* competition, 1996.
 7.24. MVRDV: Diagrammatic trajectory for the *Villa VPRO* building, Hilbersum, 1995/97.
 7.25. ACTAR ARQUITECTURA: Diagram/ideogram for the *Mallorca Fairgrounds*, 1999.



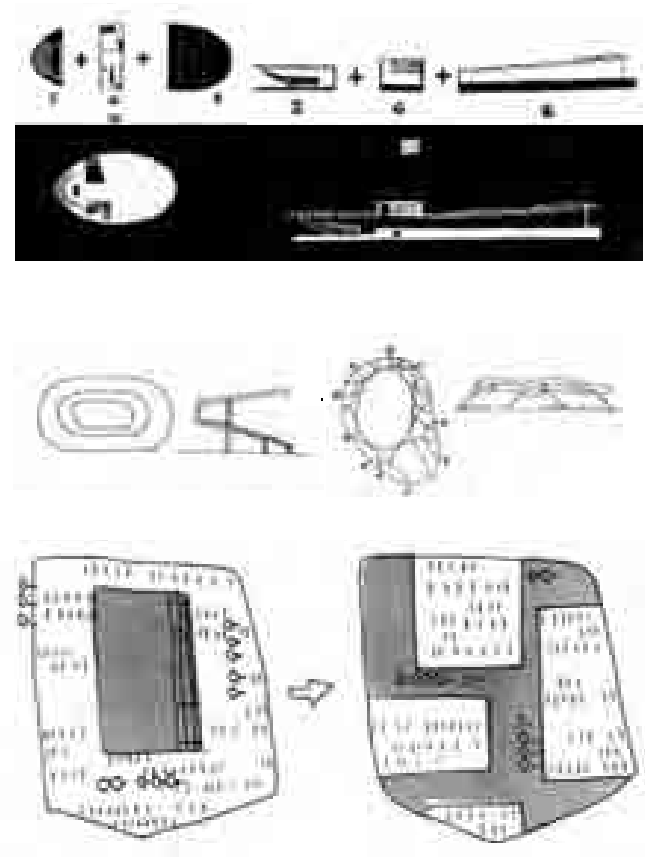
The operative condition of the "diagram-ideogram" is often demonstrated in the form of a (tactical) response associated with a possible (strategic) logic. A synthetic trajectory with the potential to bring together "reconnaissance", "diagnostic" and "response" into "criteria" for action/disposition.

Idea, process and action, as a trajectory of "folding, refolding and/or unfolding".

7.26. OMA: Ideogram for the second Jussieu Library competition, Paris, 1993.

7.27. FOA: Flow diagram for the Yokohama Ferry Terminal project, 1995.

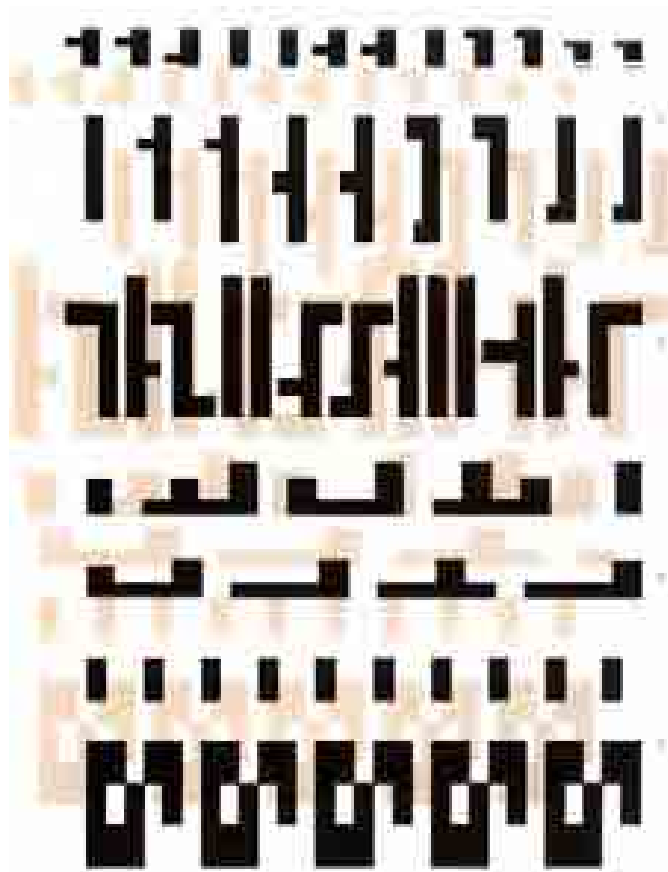
7.28. NJIRIC & NJIRIC: Ideogram for the Hortus Sanitatis project, Zagreb, 1997.



7.29. OMA: Ideogram for the design of the Congrexpo for Euralille, Lille, 1994-96.

7.30. Cecil BALMOND: Concept diagrams. Chemnitz Stadium. (Kulka-Königs-Balmond, 1998).

7.31. NJIRIC & NJIRIC: Ideogram for the Baumax shopping center, Maribor, 1998.



7.32. Ramon PRAT, Patchwork of ideograms.

1-MVRDV: WoZoCo, Amsterdam, 1997.

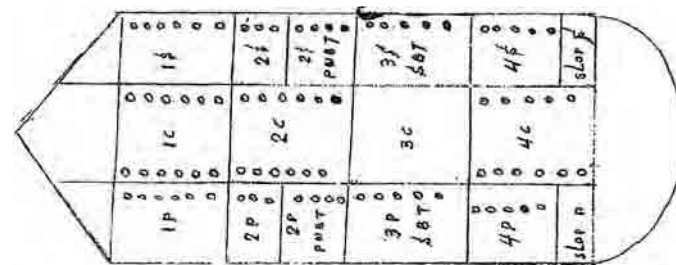
2-Kazuyo SEJIMA: *Low-level typology* Tokyo, 1995.

3-NEUTELINGS-RIEDIJCK. *Hollainhof complex*, 1995-1997.

4-MVRDV. *Design for Delft XXI*, 1996.

A sort of “battle map” where “all” of the selected information – both “processed” and “expected” – appears compressed or condensed, but not “summarized”, heightening its dynamic (evolving and open) potential, as we have pointed out, beyond the notion of a “sketch” (“outline-concept” of a static, finished, whole formalization) but also beyond a possible strictly linear conception of the processes, made up of scalar progressions and juxtapositions that are hierarchically predetermined. In the “diagram”, the exterior and the interior come together – macrostructure and microstructure, the whole and the details, in an open field of possibilities.¹⁰

Between the real and the virtual, this decisive expression of an operation or a process in process demonstrates the *trans nature* –*transcribing* because it is synthetic, *transmitting* because it is expressive, *trans-scalar*, because it is procedural, and *transformative*, because it is evolving – of a logic that is surprisingly abstract and concrete at the same time.



7.33. “Captain Mangourias Drew the Disaster.”

An example of a diagrammatic representation intended to express the beginnings of a process that is not necessarily associated with a formal system. Diagram of the Prestige showing the distribution of its oil tanks. Marked in black are the tanks where the leaks occurred, causing the oil spill (in *El País* December 3, 2002).

IV. Bits of Information, Battle Maps (and Negotiation Maps)

From this point of view, the diagram brings together – like any “battle map” – a “logic of decision”, a “logic of instruction” and a “logic of action”, all combined: a resolution of the system that is both strategic (abstract and generic) and tactical (concrete and specific).¹¹

A “battle map” constitutes – rather than a “fixed drawing” or a closed off and descriptive map – a synthesis of “possible”, open and uncertain evolutions and movements: a static “simulation” of dynamic processes.

A “diagnostic” in the face of the conditions of the place – a “reaction” – with the ability to read, process and represent, compress and synthesize its material information (ground, infrastructure, profiles, orography, concealments, accidents, etc.), but also immaterial information (weather, winds, psychological aspects, echoes and noises). In a battle, the formal definition of the movements for each contingent depends locally – at each *informational* moment – on the tactical opportunity, but it responds globally to strategic criteria for action: a greater or lesser degree of accuracy, efficiency and luck in the face of heterogeneity and variability – “hazard” – leads those movements toward one result or another.¹²

A “battle map” is an attempt at “mapping” the environment – and the movements, maneuvers, “flights” or “defeats” provoked there – not with the aim of describing it, but to “direct its transformation” from a determined “negotiation” with the forces and the demands that influence it.

These kinds of “maps” constitute virtual “diagrammatic operations” with the ability to represent both form and process at the same time; “order” and movement; horizons of certainty” and “divergences of uncertainty”.

The notion of a “battle map”, on the other hand, refers to the introduction of a “field” – as an environment return (*milieu*) and a disposition (logic), as a scenario (place/context) and as a device (mechanism) – that is configured according to the fluctuating orders produced by a diverse set of “driving forces” (attractors) and “driven trajectories” (mobilizers). A field of potentials and a field of maneuvers. *Dispositif* (device) and disposition/s.

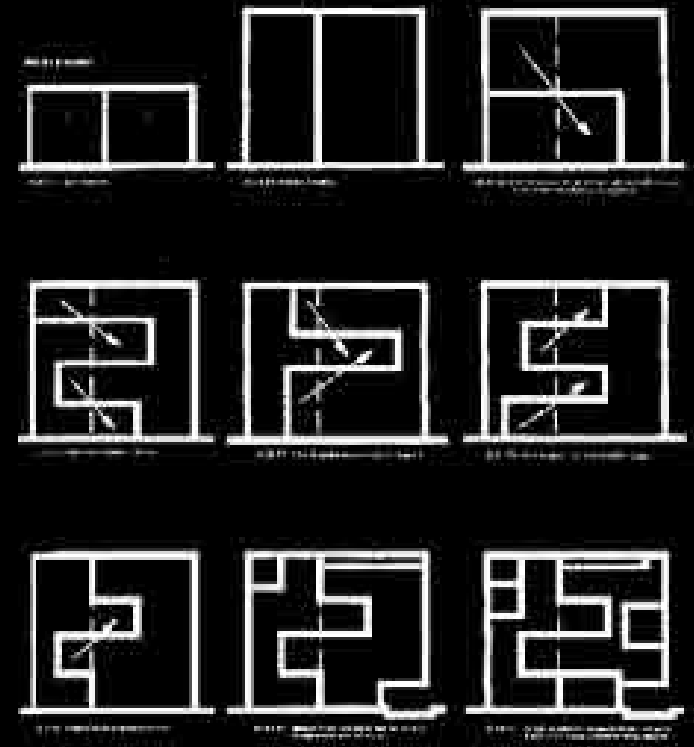
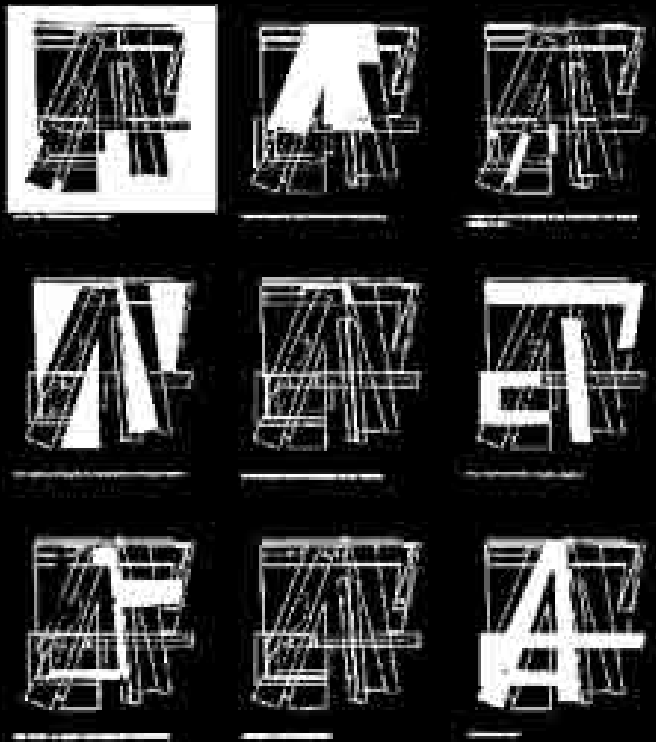
Indeed, beneath the very nature of contemporary design as a strategic and tactical operation (as an open disposition) underlies this ambiguous “diagrammatic” condition: it is the “map” of its own dynamics, but also the dynamics of the medium, the place and the global scenario to which both are referred.

The “diagram”, understood as a “battle map” then becomes “case” and “class” at once.

And at the same time it is constituted in the essential “bit” of the action. The analogy is not unwarranted since – as we have been pointing out – underlying the systematic, operative and “procedural” nature of contemporary design, we find this condensing and conductive – mediating, articulating and transformative – intent of information.

The old “machine-object” of modernity is followed by the “disposition-diagram” of the information age. Geometric volume is replaced by an operating system. A “retroactive” movement is replaced by a “reactive”, active and relational capacity.

The capacity of a possible disposition intended to shift its initial parametric schematics on the basis of the explicit and uninhibited (unprejudiced) manifestation of the exterior stimuli it has suitably “processed”, the interior vectors it has conveniently “formulated” and the movements generated by both.



The wall made it possible to negotiate
with the neighbors and their needs.

Two examples of diagrammatic representation as the synthesis of combined complex processes.
The diagram constitutes a vector of dynamic forces and – possible – events that are, in turn the work and the manifestation of those negotiated forces (or demands) in action.

7.34. UNSTUDIO (Van Berkel & Bos). Das Schlos. Berlin, 1993. Distributive diagrams.
7.35. MVRDV: Tactical ideograms for the Villa KBWW, Utrecht, 1997.

The nature of the diagram combines (and compresses) different and simultaneous layers of information in a single compressive "icon" that ultimately alludes to the theory of the sign, semiotics, semiology and the special fields of iconography and cartography.¹³

Diagrams are concise maps of open – often tempestuous – processes, and the consequence of this "compressive" potential is their application not only for visualization, programming, simulation and the reproduction of complex developments, but also in the production and design of new kinds of organizations with the potential to translate our current understanding of reality today (and the manifestations that this understanding is founded on).¹⁴

In terms of this book, it is worthwhile to insist on the diagrammatic character that is implicit in a certain kind of contemporary architecture, because in that *diagrammatic* or *ideogrammatic* condition reality appears condensed in a possible synthetic trajectory of "geostrategic" information, forming the *cartography* of a whole potential range of open and associated territories – immediately bringing together "synthesis and action", setting and scenarios, situations an– new – organizations.

The diagram thus constitutes a vector which combines condition, diagnostic and response: the synthesis of a whole broad field of dispositions, maneuvers, forces and – possible – evolving, diverse and indeterminate events, which are in turn the manifestation – and the expression – of those forces (or demands) in action.

This purposeful character (or nuclear criteria) of the system allows for associating movement and combinations with those *vectorized/vectorizing* frameworks – diagrams – understood and genetic – and generic – promoters of the processes that are unleashed, but also as synthetic codes for possible dispositions and multi-scalar relationships in which causes and effects are mixed and combined around certain cross-cutting trajectories of synthesis which

emulate and condense not only the underlying nodal criteria, but also the multiple associated "internal" – global and local – transformations and evolutions.

This hypothesis of "transversal conductivity" allows for these *machines-machinations* – those diagrams – to appear from the outset as "being", encouraging dynamic processes within other "superior" dynamic processes:

In this sense, the diagram points to an immediate production of form generated beyond exclusively formal concerns, and in this new epistemology of non-linear systems (where – if they are to be truly understood – forms are only relevant when they coincide with relational processes, rather than episodic messages or outlines) the diagram becomes an important operative – compre(ss)(hens)ive – tool when it comes to getting an inside look at the operative abstraction of reality that is characteristic of our times.

As Sanford Kwinter pointed out:¹⁵

"The role that the diagram is now playing [...] in the late 20th century is not so different from the way the concept of the 'schema' was used by Kant to theorize Newtonian reality in the late 18th century. Both serve as synthetic explanatory devices [...] that open up a space through which a perceptible reality may be related to the formal system that organizes it."

This is, effectively, a new abstraction that is no longer essential, but synthetic. It does not work with "pure" information (subtracted, perfected or extracted), but with condensed information (compressed in order to be multiplied). An evolving (multi-layered) information, rather than a minimized (stripped down) information. An abstraction that is associated with a strategic vector. An operative (dynamic) criterion rather than a substantial (static) figuration, where the idea is no longer "less is more", but rather "more from less".

V. Epitomes, Transfers and Scalar Leaps

Based on these premises, it is worth considering the important contributions of certain architectural research generated at the turn of the century, which had that ability to instrumentalize this “dispositional”, *a-scalar* and *multi-scalar* potential of the diagram and relate it to the synthetic and dynamic cartographies of the city – as the paradigm of an informational, complex and dynamic process and a trans-scalar system – strategically reinterpreted. Design dynamics with the ability to respond to the specific demands of the local sphere – place, program, uses, etc. – and to connect them with the possible generic components (more strategic than figurative) that define the global scenario in which the design will be inscribed.

Dispositions that mobilize local – concrete – information and render it operative based on patterns (or *codes*) of global disposition which, in turn, refer to other superior patterns inherent in current urban processes and those other processes that tend to be defined therein.

Underlying this attempt to synthesize scalar relationships and multi-scalar relationships diagrammatically as maneuvers that can combine local and global, resonant and transferring potentials, we find the operative logic of certain attempts directed at promoting the development of possible trajectories of production and connection between processes and scenarios, between general conditions and particular conditions.

Resonant trajectories, conceived as virtual “epitomes” of the city.

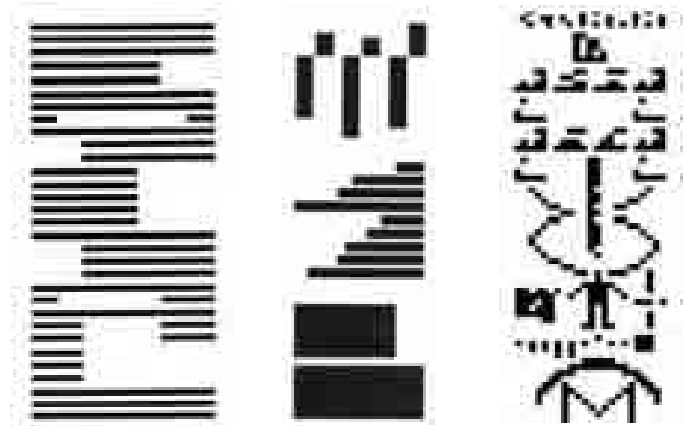
Generative projections conceived “in”, “between” and “beyond” the limits.

But also trajectories of diagrammatic connection – *transfers* – intended to encourage open structures (i.e., virtually *incomplete*) within other definitively open structures (i.e., *unfinished*): the structures of the metropolis itself.

Trajectories conceived, also, as (battle) maps of the project itself and of the urban territoriality in which the project is inserted, intended to bring together strategy and tactics, an overview and

a circumstantial view; a place (context) and an environment (milieu); a location and a system.

In the same way that many structures associated with non-linear (chaotic) dynamic systems foster possible relationships of *multi-scalar* zoom (as recursive and overlapping projections of growth and development), here we are interested in looking at certain design formulations that, as open dispositions, opt not to be affiliated with any scale: rather, they attempt to “alter” the very idea of scale (we mean scale, and not size, as emphasized by Federico Soriano¹⁶) in order to “resonate” with the patterns of the new city (with its unfinished structures) and to remain flexible and unprejudiced in the face of its ambiguous and irregular manifestations in an attempt to investigate new parameters of order, form and organization.



Synthetic condition and diagrammatic condition; transfer and scalar leap.

7.36 and 7.36 bis. Neutelings-RIEDIJCK: *ABN-AMRO Tower* (Amsterdam, 1998) and the Cantor set.

7.37. Alien Message. The first message sent out deliberately to a possible alien civilization, developed by Frank Drake, combines the notions of diagram, ideogram and pictogram. (in John BECKMANN: *The Virtual Dimension*, ed. Princeton Architectural Press, New York, 1998).

VI. Isomorphisms, Icons and Symbols

We would like to highlight this possible formulation of trajectories conceived as recursive “projections” implicit in the relationships of transference that are triggered.¹⁶

In fact, rather than *formal analogies* (metaphors that evoke “simple” figurative similarities), these dynamics involve synthesizing possible interactions between spatial trajectories and “glocal” processes (through graphic selections of processed dynamic information).¹⁷

Resonant and transferring trajectories *in* and *between* the processes that bring them together.

These *cartographies* are not intended to propose complete, closed-off, “drawings” or “outlines” that are more or less analogous in their gauge or their morphology, but rather a synthetic *diagrammatization of space-time dynamics* (with a “geourban” definition) that are mobilized between the recognition of the associated processes and the conditions and potentials of the place where they are inscribed: a selective compression of their *characteristic* processes with the potential to generate possible degrees of interaction among the generic dynamics within that framework and the different specific layers of demands that are processed therein.

We could consider these “diagrammatic epitomes” as *coded territories*:¹⁸ operations that attempt to “condense”, “synthesize” and “represent” the city in its own “processes of evolution” (rather than “reproducing” it – or “evoking” it – based on permanent and/or essential categories: place, type, morphology, etc.) associating its own “generic movements” with possible “genetic codes” “in” and “from” the territory: with evolving logics (principles, guidelines, criteria) that can be interpreted as the “seeds” of an action that is capable of guiding eventual processes of formation, dismantling, modification or renovation.¹⁹

Many of the dispositions described in this way can be associated with iconic trajectories – and or “silhouettes” – of isomorphic “compression / oscillation”. It is in this sense that we see the other possible iconic nature that is intuited and instituted in them. The “activation” of the iconic-disposition “represents” a “class” (a genotype), but its concretion “constitutes” an instance (an arrangement).

These “dispositions”, then, “speak” of other possibilities (and multiple) “dispositions” (specific “dynamic systems” that refer to general “dynamic systems”).

“Dispositions” as specific “propositions”, but also as “projections”.

Dispositions that adapt to a place and “refer” back to a city (“resonating” and “transferring” with it); and referring back to the city – to those generic scenarios and operative movements that synthesize it – they allude to the dynamic processes that make it up (both abstract global processes and contingent – specific – local processes), thus creating a strange “loop of meanings”. In this sense they are “maps”: “iconic cartographies” of the city, but also “action maps” (*battle maps*) as possible “operative diagrams”.

Maps of those tensions that call for them and maps of the “generative instructions” (and the trajectories that are generated), which define them.

Maps of the city itself and maps of (its) movements.



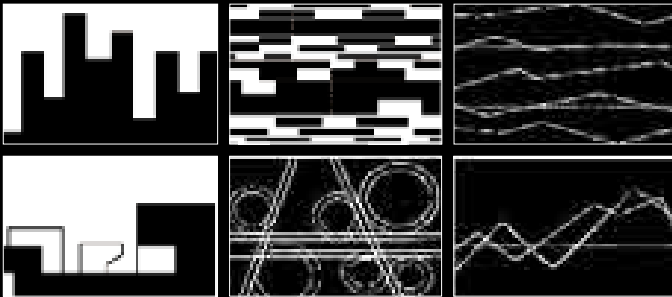
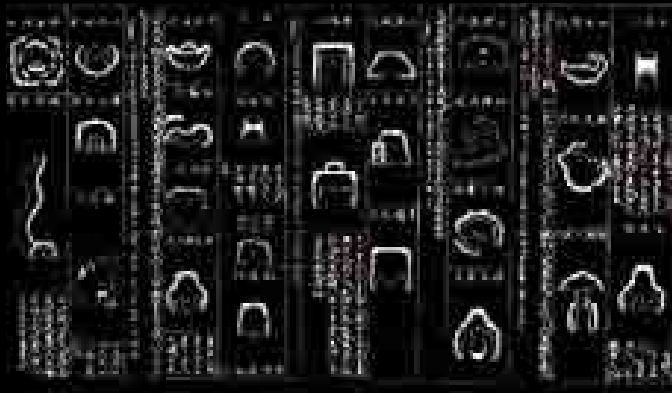
VII. Descriptors and Keys for a Taxonomy

In many of the proposals constructed here, we see a possible interlinking relationship of recursiveness, self-similarities and isomorphism (of operations involving resonance and transference between trajectories, figures, terms and symbols) characteristic of the non-linear dynamic structures we have analyzed here, as well as the nuclear “scalar leap” that is implicit in them.

Architecture that is developed based on those premises formulates specific configurations (*dispositions*) in keeping with the conditions – and demands – of a place (based on “local” criteria) but which, nonetheless, “condense” (rather than “summing up” or “reproducing”) a myriad of other possible global “trajectories” with the potential to arrange associated patterns of movement and organization: activating “fields”, interconnecting scales, linking distances, focusing tensions, highlighting rhythms, marking vectors, combining and blending information, but also “triggering” internal developments with the ability to connect and mediate (intertwining) events – programs and uses, forms and formations, types and subtypes – that are diverse and/or progressively heterogeneous.²⁰

Transfers – or scalar leaps – with the ability to ensure a specific accord with the place and, at the same time, to refer the project – as we have said before – back to the city, to those global dynamics, born from the reading and interpretation of its new “urban-territorial” identity.

New organizations associated with the structural components of the contemporary *n-city*, as “synthetic movements” and “strategic and tactical diagrams” at the same time: with the cross-bred configuration of its built ensemble (*mixed agglomerations*) as the heterogeneous and hybrid manifestation of a possible *multi-layered volume*; with the structuring capability of infrastructures (*arteries and networks*) as mechanisms for *support* and *articulation* between movements and events; with the very idea of *interstitial open space* (the *landscape*, but also the *void*) as a potential “negative” space.



COMPLEX
GROWTHS-REGROWTHS
LOCAL ACCUMULATORS
Movements of
Concentration
(unfolding)

FLEXIBLE
MESHERS-MESHWORKS
MATRIX CIRCUITS
Movements of (inter)
Connection
(refolding)

OPERATIVE
TOPOGRAPHIES-
TOPOMETRIES
PROGRAMMATIC RELIEFS
Movements of
Compression
(folding)

7.39. Geomantic map in Sophie and Pierre CLEMENT and Shin YONG-HAK: *Architecture du paysage en Extrême-Orient*, ed. École Nationale de Beaux-Arts, Paris 1987.

7.40. Synthetic diagrams as possible linking trajectories between multi-scalar structures. This taxonomy structures most explorations into the relationships *design-city* generated at the turn of the century and serves to articulate this book.



7.41. Scalar leaps

Like in the well-known Eames documentary, *Powers of Ten*, through a series of connected zooms we can establish obvious connections between the structures of the city and the territory, its regions, the continents and the structures of the cosmos; or between cities, the associated settlements – more or less self-organized – and the movements of the dynamic systems that circulate through them, unfold across them and are revealed in them. This alludes to a process of a-scalar substitution that is interrupted and short-circuited in the face of the static divisions (fixed and inalterable) put forward by the old urban discipline.



In the book *Housing: New Alternatives, New Systems* (Actar, 2001) we propose an analysis of the contemporary city as well as a possible taxonomy associated with it. The generic nature of the descriptive terms that are used (combinable keys, rather than closed-off categories) leads to regulatory strategies and specific formations. In the illustrations, we have reproduced the original terms, conveniently corrected now with the new proposals put forward in this book.

Movements – and moments – that refer, in turn, to successive synthetic definitions of the multi-urban structure,²¹ indicated and defined on the basis of three-part combinations between:

- *Buildings / landscapes / infrastructures.*
- *Concentrations / dilatations / (inter)connections*
- *Dense spaces / open spaces / support spaces.*
- *Layers / backgrounds / networks*
- *Fullness / emptiness / linkedness*

As we have been pointing out, the dispositions we are interested in studying here constitute pioneering examples in research that is directed at exploring the new parameters of order, form and organization tied to *informational* dynamic processes. Dispositions that attempted, in an initial period of research (in the 1990s, especially), to resonate with urban structures as explicit manifestations of those processes and the variable, irregular and complex geometries associated with them.

1– Dispositions conceived based on strategies (and processes) of accumulation and concentration of material:
 – *complex growths* (and *regrowths*) – *local accumulators* – that define heterogeneous formations produced by *shoots* and *grafts* – *off*) *shoots* and *sprouts* / *twining* and *conglomerates* – that can be associated to the *mixed volumetric developments* of the large-scale *agglomerations* built across the territory.

To their clustered, stacked or dendritic nature.

To geological movements of concentration, densification and/or unfolding.

2– Or dispositions conceived as strategies (and processes) of (inter)connection:
 – flexible *meshes* (and *meshworks*) – like matrix-based *circuits*
 – defined by regulated *weaving knits* and *intertwined knots* that refer back to the arterial configuration of large-scale structural networked *supports*.

To their interwoven, enclosed and regulated nature.

To geodesic movements of netting connection, winding and/or refolding.

3– Or dispositions expressed as strategies (and processes) of adaptation:-

– *topographies* (and *topometries*) (like *programmatic plateaus*) that are operative both in their definition as *ground* (*plateaus*, *trays*, *platforms*) for support and in their materialization as new manipulated *reliefs* (*reliefs* and *setoffs*), which allude to the force of the landscape and the interstitial gaps.

To their scored or sheared, nature – furrowed or sheared, broken, rolled or multi-layered.

To geographic movements of friction and compression, folds and reliefs, relief and/or folding.

These are potential descriptive terms for this desire for accord, intended to articulate a dynamic (as opposed to static) formulation of the ideas of order, organization and, finally, form – in turn associated with fundamental movements of:

- Attraction / repulsion / fluctuation
 - Concentration (densification) / dilation / (inter)connection
- Or, in other words, with movements of:
- Occupation / separation / articulation (in self-organized settlements) or of
 - Positioning / spacing / displacing (in fluctuating distributions)

Dynamics that are ultimately referred to combinations between:

– Points (volumes), lines and surfaces or *fullness/emptiness/linkedness structures*, which define the majority of the irregular geometries that correspond to the open and spontaneous configurations that interest us here.

The great paradox implicit in this dispositional processes is that the closer these processes are to the city (the most artificial system), the closer they are to nature (the most complex environment).

VIII. Machinations

The dispositions described previously ended up constituting the initial efforts in a new conceptual and architectural logic, emergent at the time, that was called upon to respond efficiently to the challenge of providing a certain spatial translation of the social, scientific and cultural understanding of a new era: a challenge that was addressed – in an initial pioneering moment of research that was attuned to the development of a new, more complex, dynamic and interactive spatial logic – from the potential instrumentalization of a possible transversal relationship between architectural space and urban space as explicit manifestations of a new *informational* order.

We can look at these dispositions as possible “operative mechanisms”: systems for processing and programming at the same time; “strategic instructions” and “tactical decisions”; “synthetic frameworks” and “diagrammatic trajectories”: “formulating logics” and “reformulating logics” at the same time.

These dispositions suggested a possible semantic multiplicity (and ambivalence), which served to promote complex spatial processes with the ability to process, program, organize, structure, manipulate, formulate and narrate all at once. Technical responses, but also cultural ones.

With the capacity to relate global forces and demands, while activating local developmental processes.

With the ability to enter into harmony with a place and to transport it beyond its boundaries.

To “resonate” with the surroundings and “convey” it to the other dynamics that emerge from the very idea of the city, and which characterize its most explicit conditions and manifestations.

These are the keys that allowed for confirming a new desire for research committed to a new kind of occupation and organization of space; promoting structural permeability and combinatory plurality, even the eventual fusion of opposites (“empty-full”, “open-closed”, “determinate-indeterminate”, “interior-exterior”, etc.); taking complexity and shifting as working

materials; treating flexibility and relationships, but also mixtures, impurity and hybridization as rich and effective actions, with the potential to respond directly, with imagination and without inhibition – without predetermined codes, prefigured models or prejudices in terms of composition, to the demands of a new irregular reality that is increasingly ready to promote – on all levels – a “qualitative contract” between the collective and the individual, the singular and the plural, the open and the structural.

But also, the global and the local.

Between the medium and the means. The means and the environment.

These designs talk about themselves and the informational processes that constitute them, and in talking about themselves they also talk about the city and its explicit multi-scalar condition – synthetic and systematic, dynamic and recursive at the same time.
Generic and unique at the same time.

In the case of most of the dispositions we are concerned with here, their forms – and their formulations – express (*narrate*) their own configuration, which in turn expresses the configuration – and the structure – of the urban logic itself, which is also related with the *space-time* processes – of complex organization and distribution – that are linked, in turn, to possible dynamic structures of variation and fluctuation, which then resonate – or enter into a recursive relationship – with the structures of the disposition in questions.

1– “The modern diagram format can be traced back to William Playfair (1759-1823), who in 1786 published a collection of forty-four diagrams and charts, the content of which was in the nature of political economy. [...] The curve diagrams and bar charts which have become the prime examples of diagrams, as they are used for temperature charts, stock exchange quotations or statistics relating to sales turnover [...] are part and parcel of civilised standards.” See KRAUSSE, Joachim: “*Information at a Glance: On the History of the Diagram*,” in OASE no. 48, 1998, pg. 11.

2– See ALLEN, Stan: “*Diagrams Matter*” in ANY: *Architecture New York* no. 23 1998.

3– See RUSSOMANNO, Stefano: “*Sound and Fractals in the Music of Francisco Guerrero*,” in *Quaderns* no. 222, 1999, pg. 156-159.

4– See HOFSTADTER, Douglas R.: *Gödel, Escher, Bach: An Eternal Golden Braid*, ed. Penguin Books, New York 2000.

5– Paraphrasing ALLEN, Stan in “*Diagrams Matter*”, op. cit.

See also RUSSOMANNO, Stefano: “*Sound and Fractals in the Music of Francisco Guerrero*,” op. cit.

6– “The diagram is no longer an auditory visual archive but a map, a cartography that is coexistent with the whole social field. It's an abstract machine.” See DEULEUZE, Gilles: *Foucault*, ed. University of Minnesota Press, 1986-88, p.34.

7– See KWINTER, Sanford: “*The Hammer and the Song*,” OASE no. 48, 1998 pg.31.

8– See SORIANO, Federico: “*Arquitectura sin forma*,” *Fisuras* no. 2, 1995.

9– “The abstract organization of dynamic forces that directs the projects toward from should not by mythologized as an innate creative instinct but on an intuition about the transformative potential of diagrams.”

See LYNN, Greg: “*The Proto-Functional Potential of Diagrams in Architectural Design*,” *El Croquis* no. 72, 1995, pg.14.

10– In this way, any event is related in a spontaneous way, i.e., not pre-established or prefigured, with globality:

“An instant is the entire work, and the entire work fits into infinitesimal, successive, infinite instants.”

See RUSSOMANNO, Stefano: op. cit.

11– “Knowledge and representation of territory has historically been associated with the linear narration of the traveller and the vectorial cartography of the soldier. While for the traveller, an understanding of the territory takes the form of a route leading to the final destination, the soldier understands places as fields of pluridirectional mobility, as spheres which invite him to a temporary habitation, as a place of vectorial tension and surface forces. These conditions are resolved in cartographic representation, in which geometry intensifies its dependence on visibility.”

See COSTA, Xavier: “*Topometries*” in COSTA, Xavier and KURGAN, Laura: *You are Here: Architecture and Information Flows*, ed. MACBA, Barcelona 1995, p.189.

12– “In these (battle)fields, form is not the result of a linear process or a statistical law. Topographies are not stable, either mechanically or statistically; they are not deterministic or Gaussian, but rather Brownian, structured by the very phenomena whose efficiency or general stability depends on their flexibility in terms of integrating fluctuations on a local scale with orders on a global level. The acceptance of uncertainty – in which the phenomenon occurs and which it produces – and the renunciation of formal control over those developments balances out with the establishment of certain operative limits: control strategies.”

See ZAERA, Alejandro: “*Orden desde el caos*” in *Exit* no. 1, 1993, p. 23.

13– “This idea of a ‘translation of reality, in fact, refers to a type of interpretive, not evocative, ‘allegory’, similar to a synthetic and narrative form of expression such as ‘archetypes’ and ‘heraldry.’”

See DECLAN, Juan: “*Arquitectura en la era electrónica. Arquitectónica*,” *BAU* no. 016, 1997.

14– See BIJLSMA, Like, DEEN, Worter and GARRITZMANN, Udo: “*Diagram*,” Editorial in OASE no. 48, 1998, pg. 1. See also the interesting article in the same issue by KLEYN, Erik and TAVERNE, Ed: “*Painters and Satellites*,” pg. 44.

15– See KWINTER, Sanford: “*The Hammer and the Song*,” OASE, no. 48, 1998, pg. 31.

16– Size and scale are independent concepts. “They are parameters of distinct types of matter. While size always exists, and is unique, scale, being a relation, does not exist as such; it only takes shape in the moment when a system of references is established. One must not confound scale with the concept of commensurateness, or with the Latin term *symmetria*.”

See SORIANO, Federico: “*Without Scale*,” *Arquitectura* no. 295, 1993 p.82.

17– See HOFSTADTER, Douglas R.: *Gödel, Escher, Bach: An Eternal Golden Braid*, op. cit.

18– See SHANNON, Kelly: “Re-Politizing the Metropolis: The Strategic Project Approach.” Lecture given in the context of the “UIA-Barcelona 96” congress.

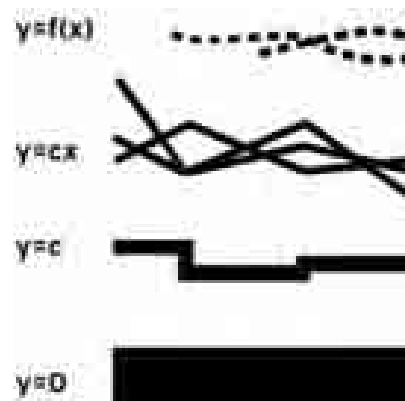
19– “Now it is natural to ask: Do the symbols in the brain represent classes or instances? – Are there certain symbols which represent only classes, while other symbols represent only instances? Or can a single symbol serve duty either as a class symbol or instance symbol, depending which parts of it are activated?”

See HOFSTADTER, D.R.: *Gödel, Escher, Bach*, op. cit.

20– See KOOLHAAS, Rem and ZAERA, Alejandro: “*The Day After: A Conversation with Rem Koolhaas*,” *El Croquis* no. 79, 1996, pg. 19.

21– “Topologically, the city is a common convex place that appears through the inversion of a small group of private spaces accumulated into more or less controlled clusters.”

See BALLESTEROS, José and BARAHONDA, Miguel: “*La ciudad que no se ve*,” *Fisuras* no. 5, 1998, pg. 60.



7.43. Vicente GUALLART.

Diagram of a progressive formulation.

House of the Seven Summits, Valencia, 1998.

8 GROWTHS (UNFOLDS) SHOOTS AND GRAFTS

Growths-Regrowths as local accumulators

I. Growths (Unfolds):

Complex (Re)Growths as Local Accumulators

In this possible taxonomy of relationships between spatial distributions/dispositions and urban conditions mentioned earlier (between projects, cities and environments), it is worth identifying the structures that are explicitly manifested as possible structures of accumulation and growth ("local accumulations of material") as complex growths or (re)growths, which can be interpreted as an initial and immediate translation of turn-of-the-century urban complexity.

Irregular *unfoldings* revealed through vertical strategies based on shoots (or "offshoots") and grafts (or "*twinnings*") associated with dense and heterogeneous volumetric concentrations, related with the three-dimensional "fracture" of contemporary urban space and its conglomerate and/or clustered multiplicity.

The acknowledgement of these processes reveals a complex nature materialized in vertical "poly-constructions", irregular in their form, program (and geometry), as the expression of a largely convex, pointed or dendritic "topology": belonging to dispositions with strong ties to the ideas of stratification and superposition.¹

Formations that would tend to appear as "dynamic cartographies with a three-dimensional organization" emerging in the form of "dis-junctive" trajectories, which would usually be stacked and/or eruptive.²

The geometric analysis of these configurations refers back to the varied spatial maneuvers of dispositions that precisely express movements of concentration and percolation, of superposition and accumulation; overlapped, outlined, embedded and twinned, in turn, in complex bypasses of variable profiles, with a greater or lesser degree of hybridization.³

In the case of present-day urban structures, the complexity of these "geological" strategies of accumulation and superposition would tend to be associated with formations that involve strong concentrations of programmatic density in fundamentally vertical developments.

8.1. Barcelona in Flames. Image of the Tragic Week taken from Tibidabo.

In these structures the program, stratified in complex sections (in overlapping layers of information/programming), takes on a special importance.

But, also, the “explicit” expression of the different actions – forces – that make up those sections (and strata) as trajectories of fluctuation and movement.

Trajectories intended to relate the content with the container, organization with program, structure with space, exterior circumstances with interior tensions, in fluctuating profiles that are defined through direct movements of growth, inflection and reduction, stacking, stockpiling and/or grafting, far removed from any prior compositional preform element (based on rigid, closed-off gauges or prefigured silhouettes): section as a mechanism for vertical accumulation⁴ is what allows for visualizing, in hypothetical “clinical cuts”, movements of “vertical oscillometry, variation and deformation” inherent in a direct and objective recognition, manifested in structures with an irregular profile and a preferably three-dimensional experience.⁵

Dispositions proposed as *growths* or *regrowths*, defining possible complex spatial structures formed through sudden movements of “deployment and extrusion” in a vertical sense (eruptions, growth spurts, “offshoots” or “sprouts” on the part of an organism, outlined and extruded in “sequences” of dynamic profiles) or through a process of “twinning” or “conglomeration” (overgrowths, stacking, coupling or eventual commensalism) understood in any case as effective “grafts”, rather than sensationalist “collages”.

Whereas “offshoots” respond to a desire for volumetric compression and decompression in the built mass (usually produced in conditions of high building concentration), “twinning” responds to the need to combine programs and functional spaces, proposed in a (greater or lesser) situation of imbalance. Whereas the former explore the system’s capacity for “mutation” (and growth), the later heighten its capacity for “coupling” (or cross-breeding).

8.2. Ramon PRAT, photographer: Fitted sequences in downtown Atlanta.

8.3. MVRDV (Maas-De Vries-Van Rijs): Urban megaform, Berlin (1990).



8.4. J. BERNADÓ and R. PRAT: *Atlanta*, ed. Actar, Barcelona 1995.
 8.5. Geological formations in the Giant's Causeway, Ireland
 (in Klaus MERKEL: *The Reading of Time in the Text of Nature*, ed. Lars Müller Pub., Baden
 2000).



II. Offshoots: Fitted sequences

As the first manifestation of these dispositional strategies, we use the term (*off*)shoots (upticks or sprouts) to refer to spatial movements that would be generated preferably in section, based on the strategic use of the vertical dimension⁶: dynamic developments of the built mass conceived more as arrhythmic vertical deployments than as homogeneous or cohesive volumes. Disjunctive extrusions intended to fragment (“fractalize”) dense groupings of accumulated volumes, promoting complex dynamics of distribution with the potential to place priority on an irregular treatment of the building, not as a single tectonic mass – a “compact” built presence – but as a variable vibration among multi-scalar events (“between the small scale and the large scale”).

Dispositions understood, then, as discontinuous growths, but also as functional eruptions that are of unequal heights, put forth as a functional variation and oscillation of gauge: growth spurts, extrusions, “developments” of the building itself – and the uses that is articulates – called on to structure contoured masses on top of pedestals lower down; abscesses (emergences) with a vertical drive that outline their actions in complex profiles made up of “layers of requests”, that would be overlapped as layers with a variable section and combined programming.

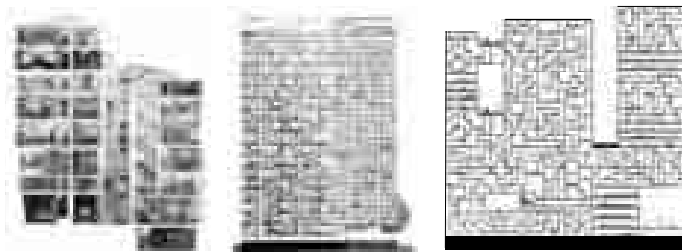
Developments intended to encourage evolving processes adapted to movements of growth and clipping; breaks and inflections between full and empty – between built and unbuilt – produced through the combination of programs in section, which would no longer be rigidly separated, but rather mixed together into possible complex organisms. Braided profiles and/or “embedded” or “cut out” silhouettes, where the combination of spaces with varying densities (horizontal developments and vertical elevations, for example) promotes a segmented spatial configuration, based on iterations of “empty-full”, “mass-syncope”.

Earlier we pointed out the voluntary link between these dispositions and three-dimensional geometric configurations – with a clustered or rhizomatic nature – which wanted to respond to variable processes of developing tension, associated with movements of fluctuation, flow, accumulation, excavation and oscillation that are preferably “dendritic”: configurations associated with topologies that combine fraying and clustering, where constructions are broken down into “pre-clusters” (stalks) and “clusters” (buds), giving rise to dispositions/distributions with varying, irregular coagulations and fractures in the material that is accumulated and distributed.⁷

The translation of those dispositions in present-day urban geologies leads to “contoured masses” of intermittent oscillations, which tie in with certain considerations put forward by Steven Holl:⁸

“In the modern city the voids between buildings, not the buildings themselves, hold spatial inspiration. Urban space is formed by vertical groupings, terrestrial shifts, elongated slots of light, bridges, and vertical penetrations of a fixed horizontal.

Urban space has a vertical Z dimension equal to, or more important than, the horizontal X-Y plane.”

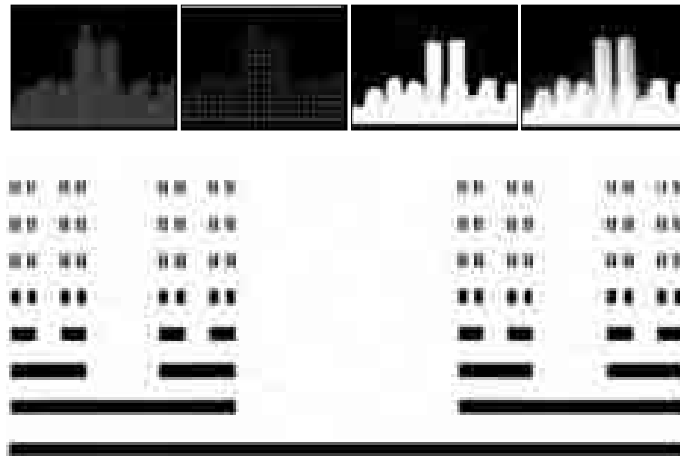


8.6. Section as a mechanism of vertical accumulation.

Classical structure: cross-section of a bourgeois apartment building, Basel 1853 // Modern structure (Yves LION: Domus de la, 1984) // Megaforms with irregular profiles (MVRDV, Berlin, 1992).

A spatial order based on perpendicularities that is amplified by the sequential rhythm of the protrusions, by the syncopated development of the volumes, and but the changes in “position” of the built mass, creating a spatial configuration that is defined by variable angles and cuts.⁹

Because the idea behind those dispositions is a new attention to urban verticality, founded – more than on a fascination for the skyline – on the evidence of a new, open and irregular potential of scale and formulation that is implicit in the assumption of three-dimensionality.¹⁰



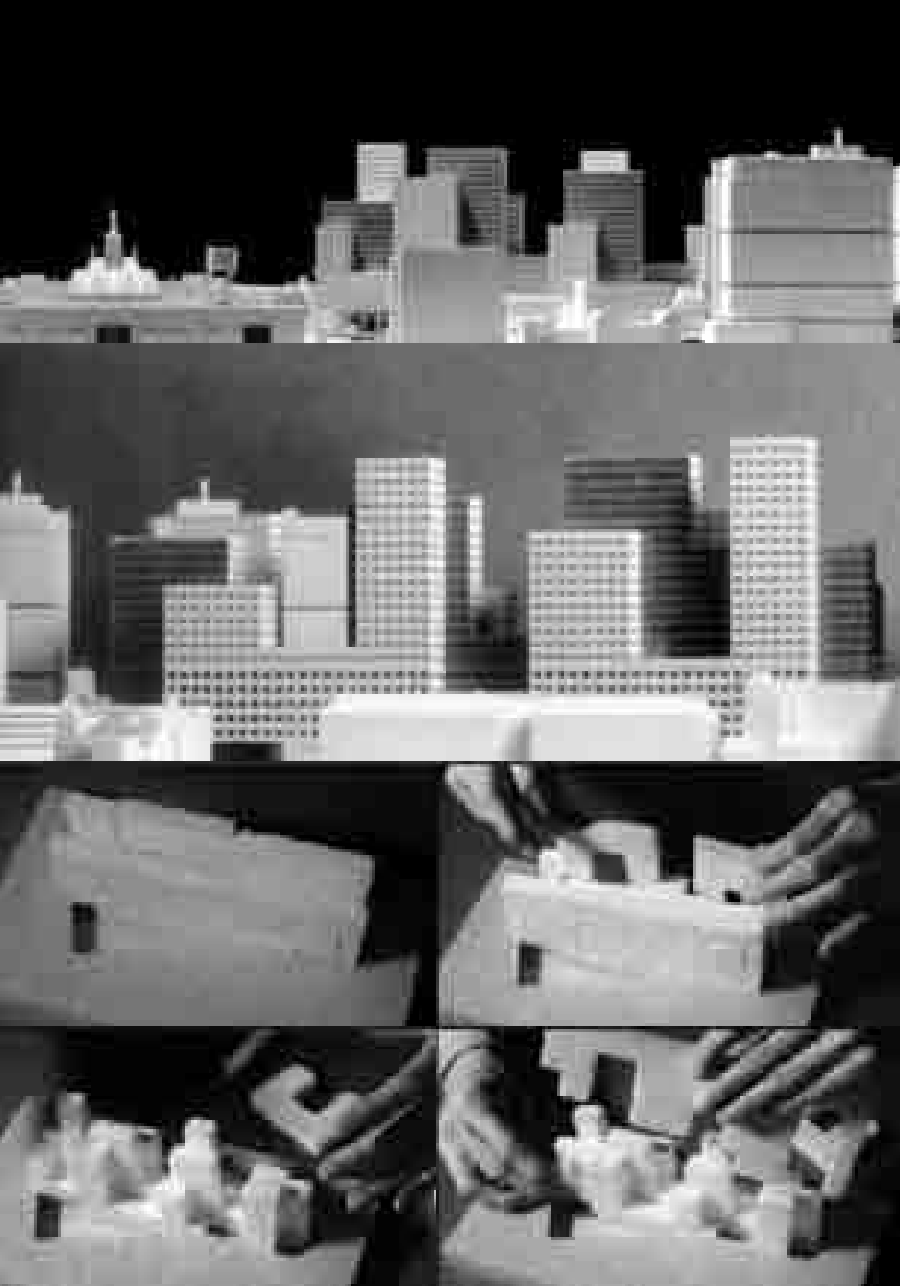
Various examples of irregular structures of offshoots or sprouting as unequal “eruptive” mutations. Twisted profiles, embedded silhouettes, frayed formations, tree-like bunches combine spaces with variable densities, in intermittent oscillations, and iterations of “empty-full”, “mass-syncope”.

8.7. Fractal diagramming of the former New York skyline.

(in Michael BATTY: “The Fractal City,” Architectural Design no. 9/10, 1997).

8.8. Canter set. Structures of peaking and discontinuous concatenation / concentration

(in Benoît MANDELBROT: *The Fractal Geometry of Nature*, WH Freeman and Company, New York 1982.)



III. Embedded profiles: J388

The Hague City Hall and Rockefeller Center

The **Hague City Hall**, designed by **O.M.A. (1986-87)** could be considered as the first programmatic example of this kind of approach.¹¹

Located in a key position, spanning the historic fabric and new developments, the project was meant to be proposed as a dynamic profile, rather than a static object: a “cut-out and dendritic leaf” between both urban realities.

Whereas the location of the new built volume and its enormous potential “mass” (conditioned by the ambitious character and the complexity of the program) seemed bound to create a situation of “rupture” between the different fabrics (an urban barrier), both parameters were reevaluated in the proposal with the aim of promoting a mechanism for multi-scalar relationships, which could record and reorient the varying tensions and densities coexisting in the context, based on an uneven movement of “growth” and “cut-outs”, of adjustment and readjustment, created by an appropriate fragmentation of the built volume.

In this sense, the proposal emerges as a dense ensemble of cutout volumes that sprout from a common base and that become ever lighter until they are smoothed down, in a progressive process of tectonic “fraying” (like an “urban oriflamme” or a “volumetric rhizome” with an irregular development).

At its base, the building brings together three bars, 14 meters wide by 240 meters long, that are connected to one another and their respective developments give rise to three volumetric planes with varying and overlapping silhouettes which end up creating a sequence of three simultaneous and discontinuous sections, based on the strategic discrepancies – shifting and cutouts – corresponding to each of the different profiles:¹²

Like “the profile of an entire city. A piece of periphery placed in the center.”

The design accentuates parameters of combinatoriality, sequentiality and discontinuity based on a strategic “full-empty” iteration with a variable section, which ultimately responds to the heterogeneity and the variability of the program being addressed, offering a flexible mechanism for adaptation and possible modification/enlargement in an movement of “urban sprouting and cropping” that is precise and contingent at the same time.¹³

In this sense, the **Hague City Hall** presages, paradigmatically, certain of the different investigations into the notion of “change of scale” developed by O.M.A. in multiple projects, which also tie in with Rem Koolhaas’s own interest in the metropolitan legend, presaged some years earlier in his *Delirious New York*.¹⁴ Those investigations were ultimately associated with the search for possible “mechanisms for generic definition and a scalar translation” that are powerful for their declared “anti-rhetorical” manifestation.

Mechanisms with the potential to substitute the classical (monumental) symbolic myth structure for a certain (procedural) “epic of growth”.

Growth with a virtually “self-regulating” progression, which was sublimated, in certain developments involving the fluctuation and oscillation of tensions and pseudo-random configurations, through the materialization of processes that were tectonic and fuzzy at the same time: irregular and honed down volumes that suggested planimetries that were both connective and disjunctive at the same time, attuned to the “dis-dense” condition of the “empty-full” combination, the understanding – and instrumentation – of which could no longer be approached only from the traditional deterministic objectivity, but rather from an operative logic that was more apparently “indifferent” to form than to process.

In fact, these developments tied in with the anonymous energy of pseudo-spontaneous urban processes like in the case of the

most paradigmatic areas of Manhattan,¹⁵ whose most explicit example would be **Rockefeller Center**, designed by **Corbet & Harrison-MacMurray & Reinhard-Hofmeister & Hood-Fouilloux** in 1932.

The paradigmatic design for **Rockefeller Center** emerged, in fact, as a singular – and ambiguous – “forerunner” to that kind of experience.

Like in the case of the **Hague City Hall**, its complex volumes (defined by a series of 14 telescoped buildings spread across the core of New York City) respond to the conditions of a conception that is both unitary and fragmented at the same time, resulting from the strong objections that emerged at the time concerning a potential increase in traffic congestion as a result of the real-estate operation.

Also, like the Hague macro-building, **Rockefeller Center** stands as an “island” in the midst of the urban fabric (encompassing three city blocks) defining a group of interdependent and interconnected buildings, whose planimetry in plan – a veritable chessboard – creates an basic matrix from which the different bodies emerge in sections like in an agglomeration of cubic sprouts or formless mushrooms.¹⁶

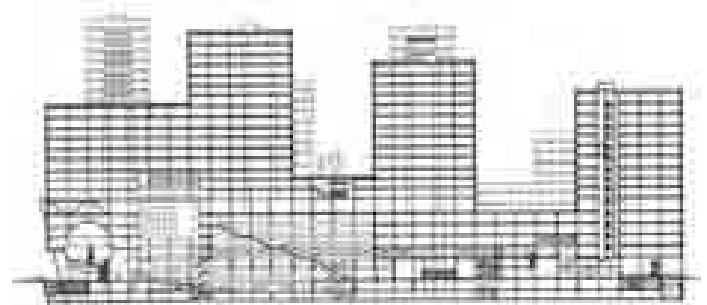
The façades, wide and flat, grow irregularly in this way, up to 230 meters, disregarding any tendency toward detail (limited only to the expression of its constructive supports) and forming a laminar mass, made up of “plates” or “sheets” (“the slab” was



8.10. Benjamin Wistar Morris. Metropolitan Square (1928) an advance of Rockefeller Center.
8.11. O.M.A.: City Hall, The Hague (1986-1987). Studio images.

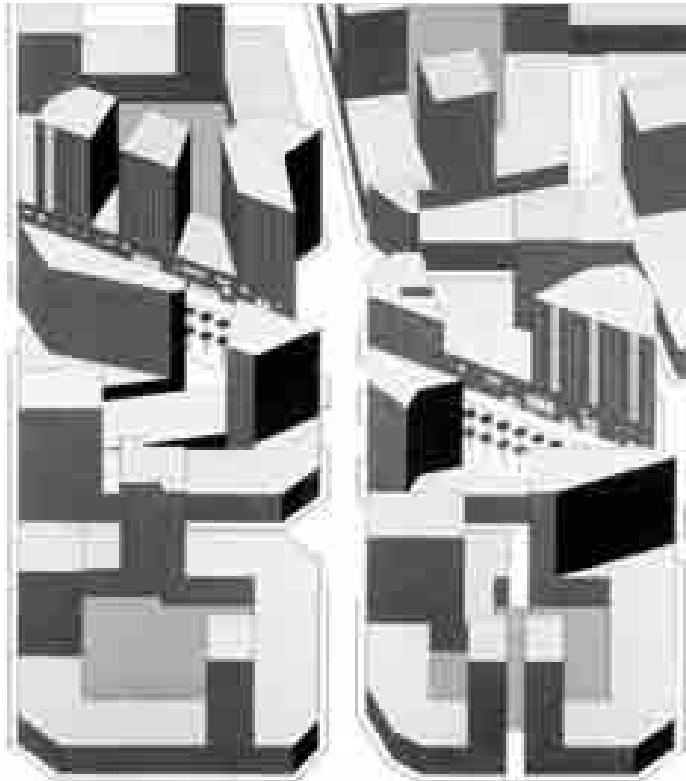


one of its popular nicknames), which respond to criteria of definition and development founded on “exclusively functional considerations” in the words of **Sigfried Giedion** who, incidentally, considered **Rockefeller Center** to be the built harbinger of the new architecture.¹⁷ Giedion himself emphasized the paradigmatic expression of this sudden scalar leap or shift in the city (similarly to the building in the Hague), which is fundamental to the thesis upheld in this book, and its character as a dynamic and discontinuous “milestone”, which we will discuss further on. This idea of a “scalar leap”, which is implicit in the – paradoxical and apparently contradictory – nature of the idea of a “dynamic milestone” (due to the distortion of the static notion of a “milestone” – a static monument – proposed by the application of a “dynamic” definition) otherwise appears as an underlying condition in the very idea of a sprout or an offshoot as a dispositional strategy that “emerges” from a place and is “directed” beyond that place: called forth, as it were, between the urban sphere and what is ultimately meta-urban.



8.12. CORBET-HARRISON-MACMURRAY & REINHARD-HOFMEISTER & HOOD-FOUILLOUX: Rockefeller Center, 1932. Aerial view (S. GIEDION: *Space, Time and Architecture*, ed. Harvard University Press, Cambridge, MA 1941).
 8.13. OMA: City Hall, The Hague (1986-1987). Section.
 Page after. Rockefeller Center vs. Den Haag City Council, Collage (author)





8.14. Hans Kollhoff: proposal for the southern section of the Diagonal, Barcelona ("H/C" competition, 1989/90).

The project combines the continuity of the layout of the Diagonal and the traditional model of the Eixample city block with the "extrusion" of the building based on variable offshoots that emerge above the regulated height.

The filling in of the Cerdà grid is understood as an adaptable baseline, above which emerges a disperse, dynamic and intermittent order based on "sprouts", with varying heights.

IV. BCN Sprouts: Diagonal Sud and Mar Bella, Two reflections on the "Cerdà dispositif"

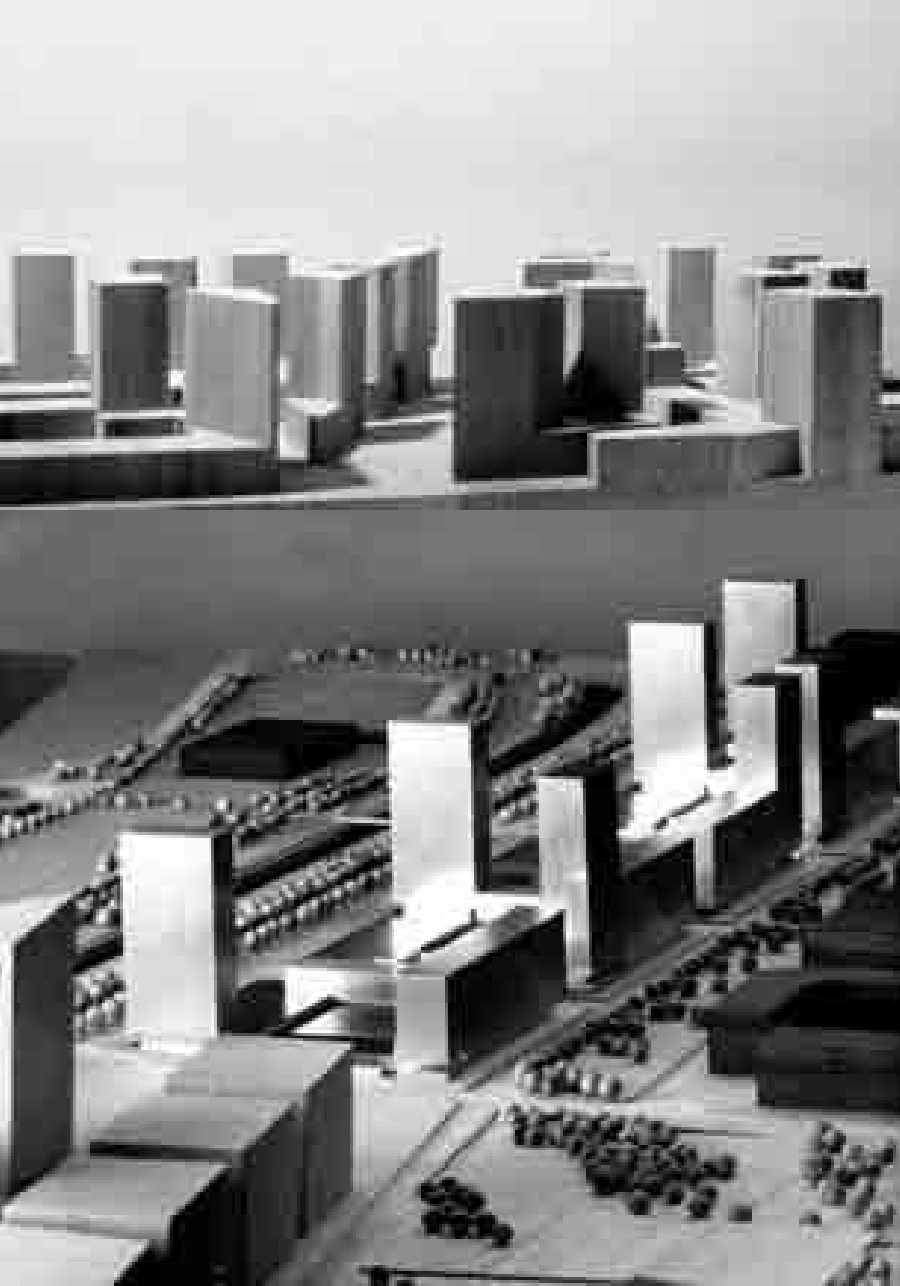
The project developed by **Hans Kollhoff** in the context of the **"H/C" competition for Barcelona's Avinguda Diagonal (1990)**¹⁸ constitutes another of the first points of reference for this type of approach, prior to the tendency toward urban monumentality that was later preferred by Kollhoff in many of his designs for Berlin. The filling in of the Cerdà grid (understood more as an alterable apparatus than as a homogenous mechanism for repetition associated with the continuous city) is understood in the proposal as a possible, neutral and adaptable baseline, above which strategies of "sprouts", with irregular distributions, are raised: towers of different heights intended to "stipple" the space by creating a new, intermittent, disperse and dynamic order, atop a continuous, stable and cohesive base.

A dynamic order and a static order coexist in the same mechanism of occupation/distribution.

Kollhoff pointed out the systematic and contingent nature of the project:¹⁹

"We are interested in an urban mode of building [...] which emerges in the most direct way possible from the circumstances conditioning it, realizes their relevance, and then expresses them. We therefore do not see the conflict of the Cerdà grid with the diagonals, [...] but as an excellent architectural chance to counteract both the latent fragmentization and the implicit stereotyping."

In fact, the proposals combines the recreation of the Diagonal, in its original conception (a route between buildings) and the reconstruction of the traditional building model for the Eixample (city blocks built up to four stories high and 24m deep) with the singular and surprising "extrusion" of the built volumes, through the eruption of emergent "sprouts" that rise beginning at the fourth floor: growths and/or extensions of the mass below which substitute the urban scale for another, more metropolitan scale, and which create, as well, a strange stippling effect that is both indeterminate and regulated at the same time.



A syncopated volumetric complex where each apartment is a “mini city block” – in a “U” shape – around a semi-exterior courtyard, thus reproducing the mechanisms of built space and open space characteristic of the city, within the habitable units, based on an exercise in scalar recursiveness.

The actual “chaos” of the urban morphology is echoes in the “chaos” – or apparent randomness – of the response that is proposed, in the discontinuous and indeterminate stippling, where, nonetheless, we can make our rules of the game that are as open as they are elementary, thus creation a combinatorial pattern that is altered and distorted wherever it is made necessary by the urban fabric.

The proposal developed by **Eduard Bru & Serra-Cartagena-Vives** for the **Poblenou Seafont (Barcelona, 1995)** delves more intensely into this avenue of intervention.²⁰

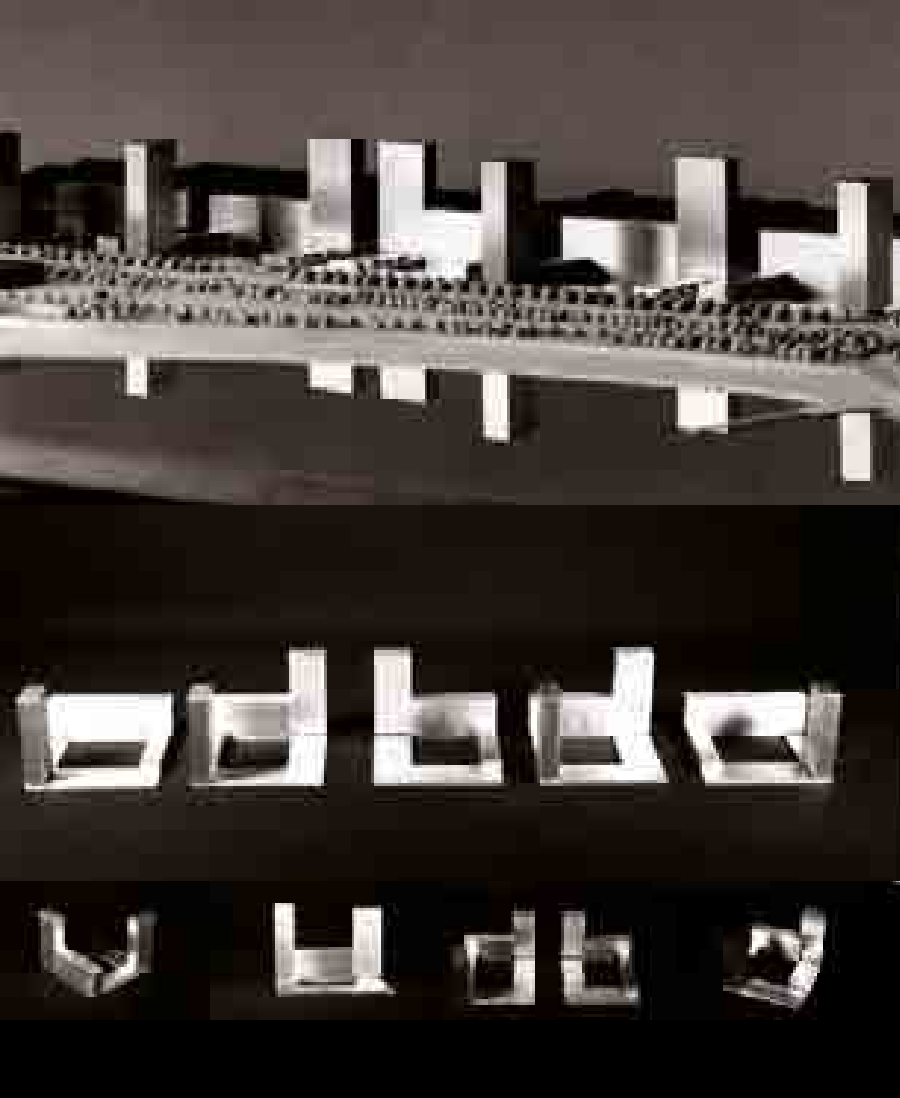
The exceptional location of the site, facing the great openness of the sea, invites the promotion of “a mechanism for shifting the scale of the city”, leading at the same time to a reflection on the Cerdà grid itself, understood here as well as an evolving, open system, rather than as a closed-off compositional mechanism. The whole is address, in that sense, from the standpoint of a “regulated freedom” of growth (“a built volume that is hollowed out or that grows where necessary, according to the simultaneous demands of the historic city and the living city), establishing a strategy based on a double sequence, defined using elements of “alignment” and elements of “growth” developed in section.

The question is not to propose a mechanism for repetition, but rather an abstract system for generation in a series, based on sequential rhythms that are open to varied and specific solutions:²¹

“Each of the blocks is resolved individually but on the basis of common parameters, as part of the whole.”

8.15. Hans Kollhoff: proposal for the southern section of the Diagonal, Barcelona, 1989/1990.

8.16. Eduard Bru & Serra-Cartagena-Vives: Poblenou seafont (Barcelona, 1995).



8.17. Eduard Bru & Serra-Cartagena-Vives: Poblenou seafront (Barcelona, 1995). Treatment of the city blocks. Model of the whole and detail of the different pieces as possible trajectories in a chain that is both related and diverse at the same time (in *Quaderns* no. 211, 1996).

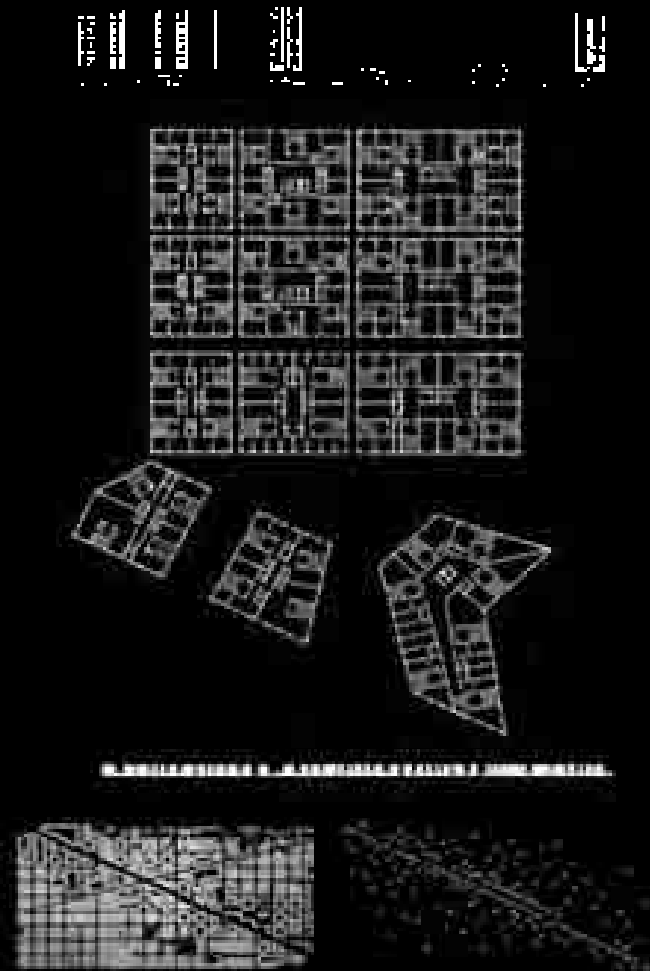
In this sense, it is worth pointing out that the proposed process of “typological mutation”, is developed through the progressive transformation, in section, of the “block typology” into the “high-rise typology”.

The vertical variation (and fusion) of the different combinations and alterations produced by the progressive mutation of the successive pieces in the shapes of “O”, “U”, “L” and “I” created a rhythmic ensemble of height and variable protrusions and, as such, a non-rigid series of configurations that are similar and unique at the same time, which promotes a particular play of “harmonies” and “disjunctions” with an implicitly irregular definition.

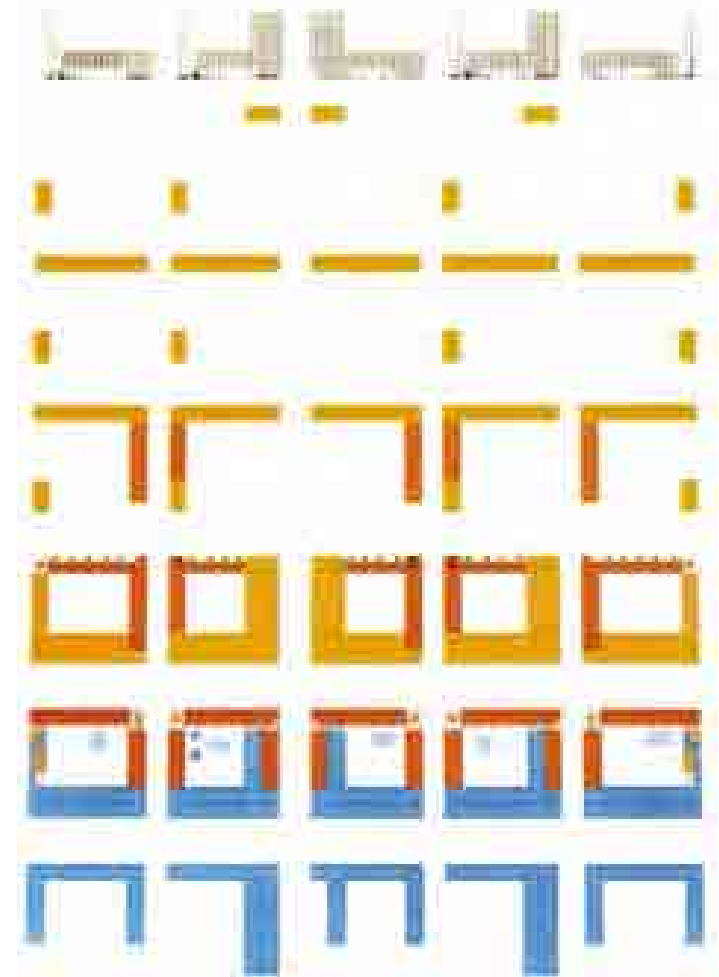
The pieces are related but not identical: lined up at the back with the “last” horizontal street in the city and open onto the landscape, the void: discontinuous sprouts – varied and atonal – rise above large horizontal platforms which stand out as “antonymic” spaces of activity. It is interesting to highlight the subtle “accord” between the Cerdà grid and these ultimately “confused” city blocks, understood not as elements in a repetitive series (mechanisms that are formed on the basis of a unit and then placed together), but as fields of maneuvers and connections associated with a possible common guiding framework. These movements are manifested as coordinated sequences of evolution, produced in and between pieces that are similar but not repeated, and which end up forming (based on their position and their profile), rather than a sum of fragments, an “intertwined” unit, an urban whole derived from dynamic, autonomous and interwoven processes tied in with the place’s own potentials and rhythms.

Eduard Bru himself pointed out:²²

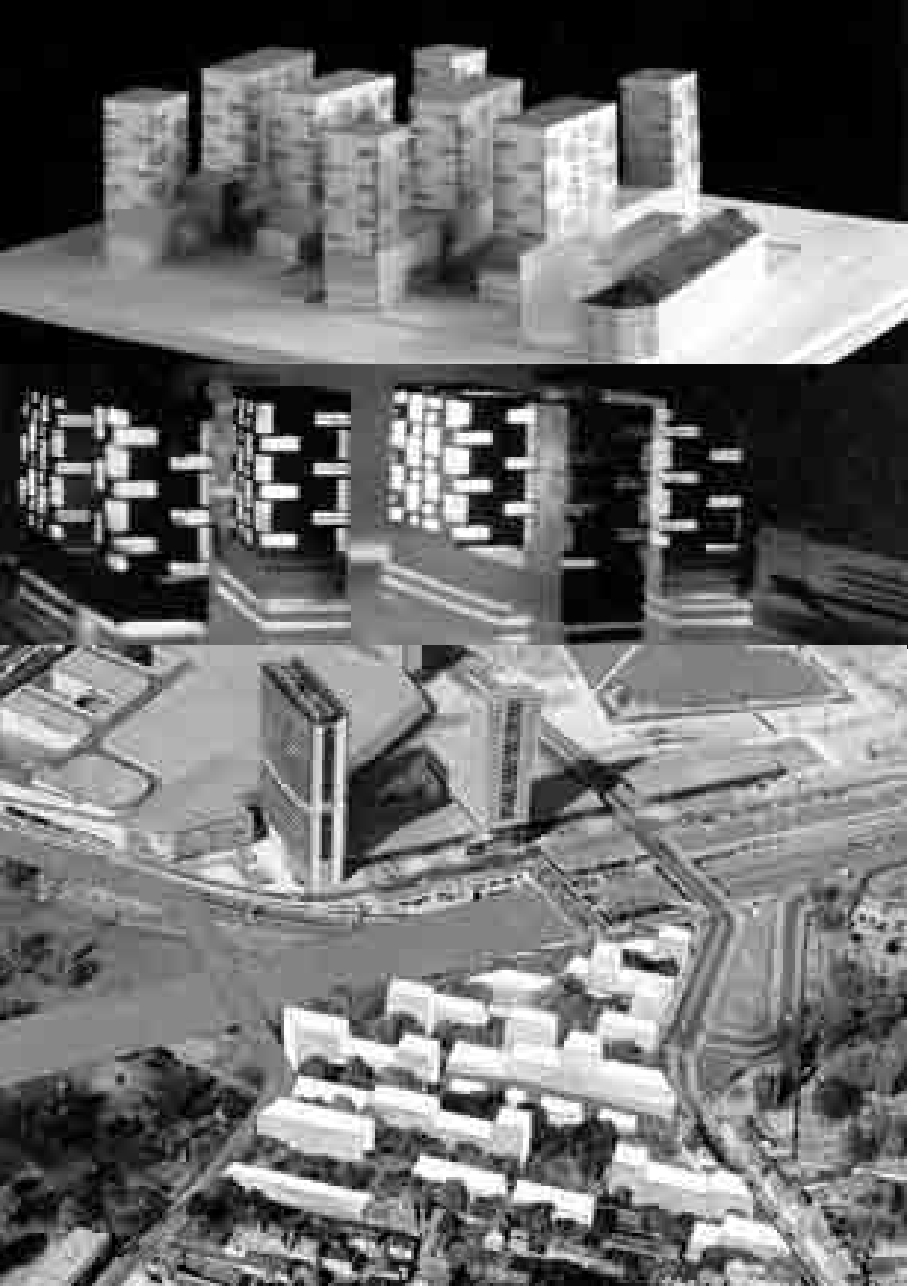
“The principal view of these volumes is from an acute angle; they are designed as a succession in which to involve other events of the city and its landscape. They are not a diorama painted before the water, but a mechanism of relations between avenue, constructions and landscape. Although they are meant to be interpreted in terms of the large scale, they keep within and scrupulously confirm the Cerdà plan. [...] They are situated according to spaced cadences which move closer together to point up an important urban event. [...] Glancing along the coastline, turning your head and looking at the approaching city – is the heart of the project.”



8.18. Hans Kollhoff: proposal for the southern section of the Diagonal, Barcelona, 1990. Treatment of the city blocks. Grid type and variations.



8.19. Bru & Serra-Cartagena-Vives: Poblenou seafront (Barcelona, 1995). Treatment of the city blocks. Grid type and variations.



V. Blade Upticks

In a number of later projects with similar sensibilities, we can recognize variations on this same type of mechanism.

The project by **María José Aranguren and José González Gallegos for a Housing Complex in Cartagena (European IV, 1996-97)** proposes a largely analogous development apparatus:²³ here, the proposed volumes are formed in “regulated outcroppings” made of vertical prisms emerging from evenly spaced shorter pieces, with multiple superficial incisions (“window-gallery-strips”) which allow for assimilating the whole, when seen at night, to a forest of “lanterns” or a series of “light towers” (in a clear exercise in scalar ambivalence), which refers back to the old characteristics of the site (a former electrical power plant).

Faced with the irregularity of the buildings in the surrounding area, the proposal reacts by proposing a mechanism for creating a syncopated rhythm, intended to articulate successive open spaces in the city, which are “enlarged” as a result of the dynamic movement of the building and whose variable growth above the city black creates unexpected spatial relationships of openness and closure.

This lets us recognize, once again, the possibly play of atonal point and counterpoint, in a virtual dance of figures that are paired up yet separate at the same time: a back and forth associated with the sequential disposition that is adopted; to the discontinuous succession of events that are individual and linked, with a variable – irregular – frequency, made up of extrusive intervals and tempos that are more or less prolonged.

The proposal by **Xaveer de Geyter for the Eurolille apartments (1998)**²⁴ also proposes the conception of a lineup of flexible “offshoots”, intended to organize the construction and, at the same time, condense and resonate with the heterogeneous configuration of a site that is an “intersection”, defined between different structures and varying scales: the infrastructural scale of the

8.20. Aranguren-Gallegos: Housing complex, Cartagena (European IV, 1996-1997).

8.21. Xaveer de Geyter; Housing group, Eurolille (1998).

nearby Eurolille complex, the urban scale of the historic fabric in Lille and the natural scale of the terrain that limits along the plot. The proposal fits into the interstitial spaces in a solitary grove of trees – a densely forested area – and the ring roads that encircle the uneven topography of the terrain. The diversified program – housing, facilities, office space (200 p./ha) – favors the adoption of a mixed configuration proposed both on the urban scale and on the level of the constructions themselves:²⁵

“A typological mix of urban and residential spaces: a combination of rhythmic principles.”

The whole is also articulated based on a regulated sequence made up of a string of sections “built-green-forested” which sweep across a terrain whose irregularities penetrate this extruded virtual “bar code”. The cutout and crenellated building outlines promote not only an effective a-scalar fractalization of the whole, but also a perverse dialogue – a kind of hybridization – between “mineral growth” and natural growth. Rather than a complete formation, the project articulates a “pattern” for elementary and variable development: it is both stable and unstable.

An “evolving” organism that refers back to a sequential matrix that dictates movements of emergence and retraction, which are both “vectorized” and “open” to contingencies.

In all of the examples analyzed up to this point, we can recognize this common work with vertical emergence – “blades that cut through the void” – no longer proposed as a – more or less picturesque – attempt to reproduce evocative skylines (imported metaphors) or as a yearning to create urban “milestones” with a monumental mission, but rather as the possibility for using strategic movements in the third dimension (recognizing a deconstructed ground in section by way of disjunctive vertical concentrations above lower horizontal “plinths”) as a (multi-scalar) working material intended to combine dimension, sizes and configurations.

We could make mention of dynamic profiles, which are eventually

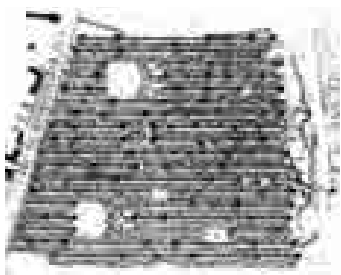
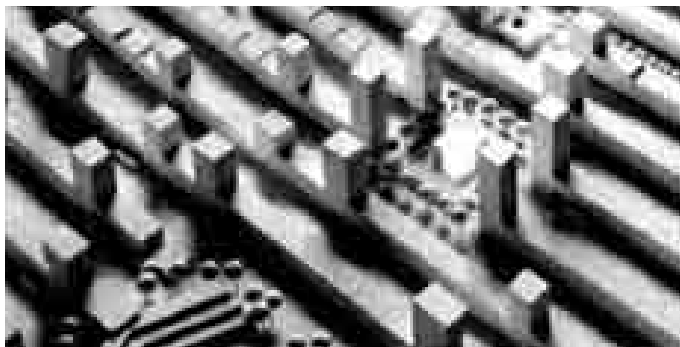
supported by more rigid bases, that punctuate a space with possible arrhythmic cadences and whose “discontinuous rhythm” produces strange conditions of distortion in the landscape and “suspense” – between the predictable and the unexpected, between what is generated and what is anticipated – and which could be associated with the similar conditions proposed in the 1960s by **Stefan Wewerka** in certain of his many urban projects, most especially his proposals for the “**Ruhwald**” neighborhood (**West Berlin, 1965**).²⁶

Here again, the disposition that is adopted is based on a series of stripes that alternate between built volume and public spaces for passage and access, whose apparent “repetition” is distorted – or altered – based on the definition of the length of the build stripes, their undulating profiles and the strategic – and intermittent – insertion of green areas into the interstitial voids (promoting new “focal points” of activity and concentration in those irregular “expansions”).

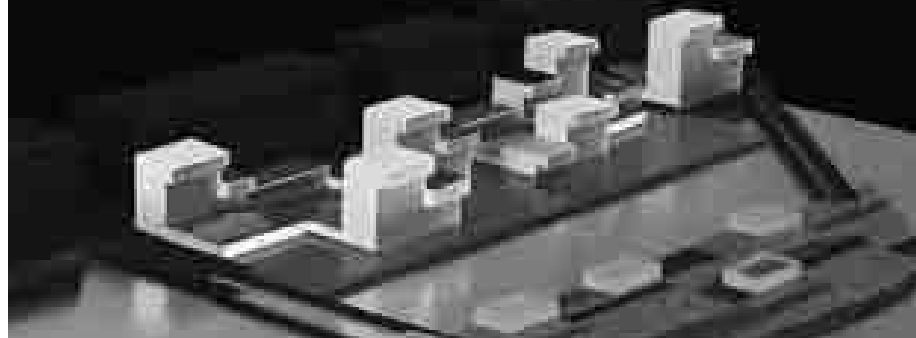
The whole is proposed as a mechanism intended to favor this ambiguous mixture of programs, uses and developments that are characteristic of old historic urban fabrics and a new organizational mechanism with the potential to run its course and evolve freely. With the potential to grow and twist in section and to promote a “random deployment” of its volume (and, thus, its final form) based on a radical – and nearly abstract – distribution of “points”, “lines”, and (interstitial) “surfaces” in a random configuration.

In this sense, proposals like the ones designed by **Ellen Monjen and Agnes Burg for Münster (European III, 1994)**, **Abalos-Herreros for Algeciras (1999)** and **Barakaldo (1998)** – or the respective proposals by **Actar Arquitectura and Eduardo Arroyo-NOMAD for Barakaldo (1998)** – also propose strategic diversity, in the face of the varied situation of heights and volumes characteristic of each setting, which is produced by the variations caused by assorted built protrusions emerging above bases that are rhythmically spaced.

These operations are related to certain research into irregular morphologies undertaken by multiple authors and ultimately



8.22. Stefan Wewerka: "Ruhwald" housing estate (West Berlin-1965). A dynamic distribution of "points" and "counterpoints" – of deployment lines (vertical and horizontal) and interstitial lines for regulation and guidance, in a varied and intermittent disposition – "breaks up" the territory in a mix between dispositions of "sprouting" and "interweaving".



8.23. Ellen Monjen and Agnes Burg. Residential group, European III (Münster, 1994).
8.24. Actar Arquitectura. Urban complex in Barakaldo, European VI (Bilbao, 2001).
8.25. Ábalos-Herreros: Planning for the Abandoibarra area, Bilbao, 1993/1994.

intended to articulate variable densities and growth patterns (growth rhizomes) into configurations with the potential to encourage the coexistence between scales and demands, based on the variation, juxtaposition and articulation of the play of volumes in the design.

In other words, based on their own – and flexible – “fluctuating and topological mutation”, in section.

In all of the projects we have analyzed up to now, there is an underlying instrumentation of a possible constructive suspense, proposed as the distortion of a basic predictable framework (suspense as the suspension of continuities, balance, growth) from which to extrude a profile that is both irregular and regulated at the same time, and which has the potential to translate this limit scenario – articulated and dislocated, rhythmic and uneven – which belongs to the city itself and in which we can recognize – as they come together – both “the small-scale and the large-scale”.

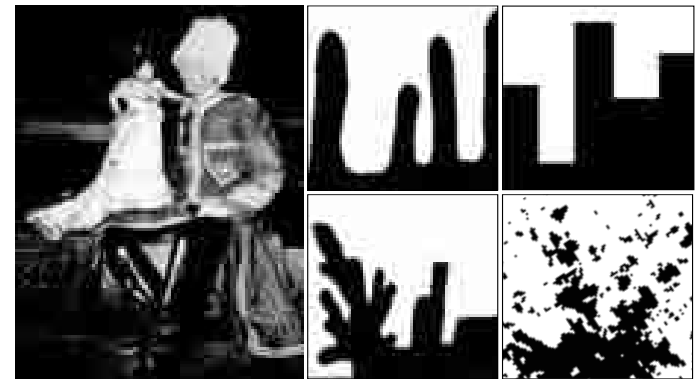
Scalar leaps and scalar ambiguities: “dwarves and giants”; “macro and micro”: the relationship between dissimilar phenomena leads to the birth – based on sequentiality and counterpoint, but also on connection and accord – of a non-hierarchical structure of discontinuous and dis-isotropic development, which are different and individualized though they are related to one another, both through co-participation in intermediate spaces – the voids and cutouts – as well as through the “matrix-like” – infrastructural – organization of the system. Naturally, this produces rhythmic contrasts between “full” and “empty”, “extrusions” and “cutouts”, “concentrations” and “expansions” and one consequence of the singularity of those “impure” configurations is hypertrophic or hypotrophic bravado, an extreme characteristic that fundamentally results from the indiscriminate – and non-hierarchical – immediacy of the responses, where points and counterpoints tend toward a simultaneous presence, such that both one and the other

become more pronounced.

The very allusion to “dwarves and giants” refers to this possibility of combining disparate elements (small and large, together). Sizes, scales, forms and programs in mutual coexistence and interaction. Joining hands.

Atypical situations. Rather than “harmonious” or “negotiated”. Tactical assemblages, freed from any pre-figured discrimination, between heterogeneous events, in a strange eccentric complicity, beyond the conventions of what is orthodoxly proportional.

Interactions, rather than contradictions, which lie at the foundation of the game of encounters and scales that holds our attention here.



8.26. Dwarfs and giants: cohabitation and scalar simultaneity.

8.27. Diagrams of growth by discontinuous offshoots (in Stan ALLEN: *Points + Lines: Diagrams and Projects for the City*, ed. Princeton Architectural Press, New York 1999).



VI. Edges of the City: Flexible Megastructures

This condensation – and agreement – of opposing tensions in the same organism refers back, in fact, to the multiple and ambivalent nature of interventions that are conceived for the most part as “nodal limit scenarios”; scenarios that are, in turn, associated with dispositifs that we would call “(ex)-centric”, not only for their irregular geometry and morphology, but because of their common location “on the border” or “between borders” (on the limits between fabrics and tissues), which is characteristic of such operations.

This “limit” condition, between territories, scales and/or types, lies at the foundation of the well-known research developed by **Steven Holl** in his *Edge of a City* at the beginning of the 1990s.²⁷

His designs for the limits of the city tried out a new morphogenetic logic of “spontaneous” configuration, intended to approach the definition of new spaces for articulation, located between large urban concentrations and large-scale peripheral areas: “territories in movement” that gave rise to “hybrid” interventions (as Holl referred to them) with the potential to articulate different morphologies, scales and programs.

In this sense, perhaps the most paradigmatic of those proposals was the one for **Dallas-Fort Worth (1990)**. The strategy that was adopted was also intended as an effective fusion between structures with fragmented developments subject to discontinuous movements of growth in a “spiral”, which allowed for formulating the whole as an irregular structure that became progressively more svelte and broken up in section.

The evolution of this disposition also centers on the mixed hierarchy of private and public spaces, which articulate a combination, within the same complex, of macro-programs focused on services and facilities (transportation interchanges, sports installations, performance halls, shopping arcades, etc.) and residential micro-programs, linked together by horizontal

and vertical circulations, interconnecting – within a single organism – “residence”, “leisure” and “work”.

The project is defined as an “attractor” offshoot: a “concentrating” force for activities – or a focalizing “whirlpool” as Toyo Ito would call it²⁸ – proposed as both a structuring mechanism and a formalizing mechanism at the same time. A megastructure of activity(ies) that, however, “dissolves” its heterogeneous density through this “quasi-organic” vertical fragmentation of its volume: “fraying” and “chipping away” at its presence – and its impact – at the same time.

This kind of hybrid disposition can be viewed as an “activity loop” in space (the in-between territory of the edges) and in time (the moment that is chosen – taken on – and materialized, among other possible moments), which connects the proposal with other dispositifs – “knots” and “braids”, which we will discuss further on.

Nonetheless, it is this – implicit and explicit – vectorized drive for vertical expansion that lends it the characteristic condition of “sprout” or “offshoot” as a possible localized programmatic accumulator.

Also tying in with this growth by eruption or variation, there are certain other developments from the time, such as the proposals by **Willem Jan Neutelings** and **Michael Riedijk**²⁹ in various vertical structures involving mixed accumulation. Hybrid towers that respond to those dispositions based on irregular offshoots, which we have described here: each specific response is proposed as a particular “combination” within a possible chain of “theorems” founded on explicit mechanisms of extrusion and cutouts for the varying models and series that are created in each case.³⁰

Perhaps the most well-known of them, because it was built, is the **“IJ” apartment and office tower (Amsterdam, 1993-98)**, a 20-story complex that is part of a commercial development located along the docks of Java Eiland on a site that is, again, an edge though with a polarizing intent.³¹

The tower, containing 68 apartments, is organized in a basic

distribution of four units per floor, located around a central core. The mechanism of “setbacks” that occurs in different parts of the building creates a double effect:

- Ensuring a varied distribution of program on each level, through the combination/permutation of a wide range of subtypes.
- “Expressively” highlighting the indeterminate and informal nature of the mechanism that is used, which has the potential to effectively combine parameters of mutability, capacity for evolution, combinatoriality, discontinuity, singularity and flexibility.

The configuration of the tower, in fact, merely “bends over” or “folds” in section with respect to the plinth, which serves as a physical and scalar link with the city and with the adjacent urban square, acting as a stable element – or base – for a virtually unstable dispositions, designed to “mutate” as it rises.

Similar approaches inspired the interesting designs by **MVRDV (Maas-De Vries-Van Rijs)** for their **Berlin Mixed-Use Voids (1990)** and by **Duwensee-Kreplin** for their **Urban Megastructures, Rosktok (1990)** both submitted to the European II competition.³²

Whereas the Berlin project proposes a new definition of place based on an abstract vertical mechanism with the potential to bring together an economy of means and an effective instrumentalization of interstitial voids³³ (in fact, the project is formed through the combination of three variable elements – heights, voids, bases – in a large-scale construction, where the overall outline takes on the virtual profile of a “megastructure” that is opportunely cut back or adjusted, creating the emergence of situations characterized by different silhouettes and colors, and which demonstrate the variable nature of a section that is both “contingent” and “flexible” at the same time), in Rostock the proposal is articulated around three “gestures” of the same dispositive device (three landmarks and three variations, at once). Here, the project is also based on a section that is extruded “contingently”: the first section – 34 stories high –



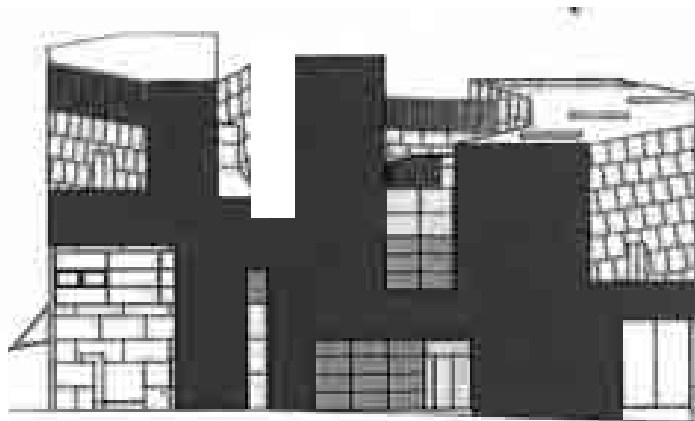
houses urban facilities (theaters, movie theaters, a library, workshops and cultural institutions); the second – 22 stories high and more compact – “opens” toward the water with shops, office spaces, services and other facilities; the third – lower to the ground and spanning 6 levels – is reserved for sports facilities.

In this way, the proposal draws on an application of a vertically variable section that is taken to the extreme: from its definition as a “large organism with abscesses” to its possible configuration as a “low-lying stretched out volume”.³⁴



8.29. Neutelings-Riedijk: IJ Apartment tower (Amsterdam, 1993/1998).

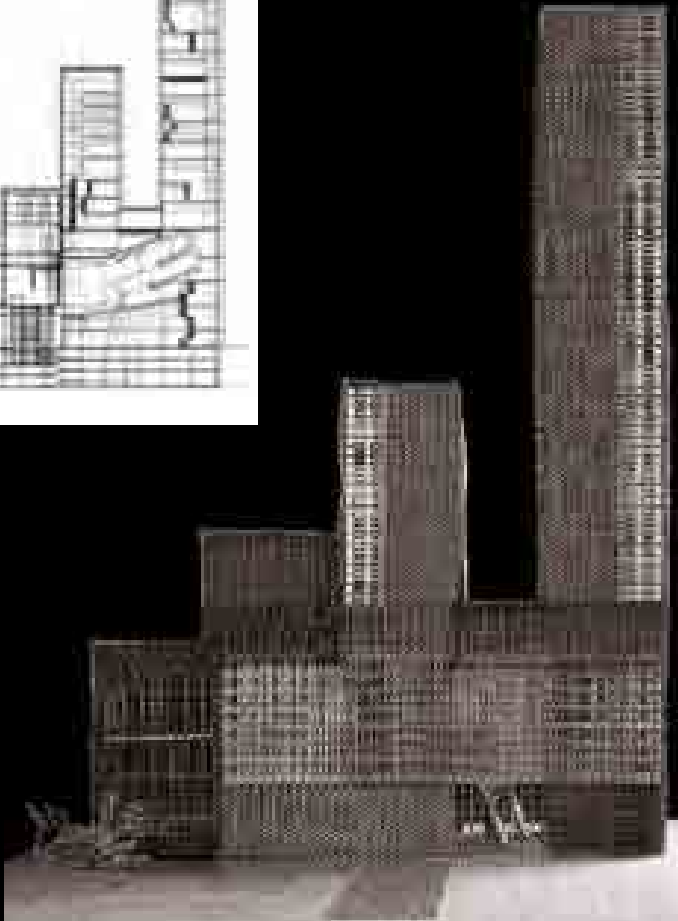
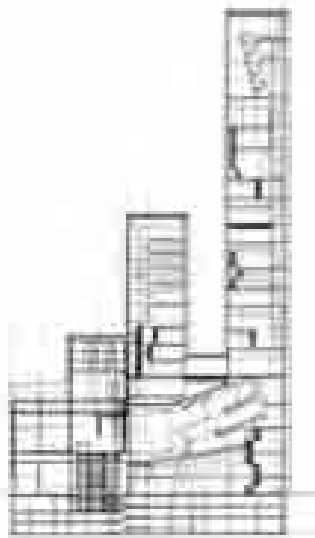
8.30. Duwensee-Kreplin. Family of urban megastructures, *Europan II* (Rostok, 1990). Models and sections for the proposal (in *Europan 2*, ed. Technique & Architecture, Paris 1991).



8.31. Steven Holl: Bellevue Art Museum, Washington USA, 1997-2000.

8.32. MVRDV (Maas-De Vries-Van Rijs): Mixed megastructure, European II (Berlin, 1990).





VII. “Wrinkled” sections

Both cases – Berlin and Rostock – propose urban megaforms, however, they are not imposing; rather, they modify and alter their profiles to adjust them both to the successive difficulties in terms of program as well as the interplay of tensions characteristic of the cite, creating dispositive devices based on connection and hinging (between different discontinuous fabrics) with the potential to resonate with the place and adapt at the same time; offering themselves as programmatically flexible – and not predetermined – mechanisms of adaptation, reduction and fragmentation.

The work based on mixed sections is revealed in these proposals as an explicit line of action in terms of proposing both morphological and programmatic diversity, not only horizontally, but also vertically.

This diversity coincides, on the other hand, with a voluntary combination between residential space, productive activities, and public facilities, which are “stackable” and can be expressed in section through the use of structural and constructive systems which increasingly avoid predetermination.

Similarly, the proposal designed by **Soriano-Palacios** for the **Benidorm Cultural Center and Auditorium (1999)**³⁵ responded, quite brilliantly, to many of these parameters.

The strength of the proposal lies, first, in the initial decision to “infiltrate” a “heterodox” and “open” skyscraper – in that it is apparently unfinished, virtually unstable, and substantially hybridized – into the sea of unique (individual and autonomous) buildings – which are, however, fundamentally “mechanical” (unambiguous) and static (“totemic”) – that is Benidorm.

In this sense, the project establishes a perverse “informal” dialogue with the dynamics of the place, intended to resonate with them, while also moving beyond the at the same time.³⁶

8.33. S&Aa (Soriano-Palacios). Benidorm Cultural Center and Auditorium (Alicante, 1993). Cross-section of the vertical multi-program and study model.

"It would be unthinkable to construct a representative building in Benidorm outside the characteristic image of the city. The city which has been a defender of high buildings deserves a new tower for hybrid emblematic uses. [...] The auditorium theatre occupies the greatest portion of the surface area, while the museum or the library run the risk of, in the subdivision, of [sic] seeming as small pieces, hindrance to the giant from which they survive."

The strategic decision to design a fractalized sky-scraper – as a flexible and formally "indeterminate" dispositive device for occupation and growth – allows for transforming the specific (local) determinations of the program into movements of fluctuation and oscillation between levels that are stacked, overlapped and interconnected, intended to "record" the free and nearly spontaneous evolution of its own development (or growth) in section directly into a global, un-predetermined trajectory: the proposal thus becomes, once more, a problem of a variable and "accidental" section, because it is set out as a variable process of folding and unfolding with the potential to increase, grow, change, alter or expand. An abstract, initially "unqualified" space, where its definition as a "dispositive" device is of more interest than a strictly formalizing one.

In fact, the project is illustrative of many of the authors' reflections on the idea of "folded space":³⁷

"Modern space must be defined by its section. It is a folded space which attempts to create the fiction of a free volume. But today the section is the representation of new, wrinkled space. It is a space which is developed continuously in its connections but discontinuously in its form and scale. [...] The project can be understood [...] as superposed, autonomous buildings [...] with the help of mechanisms which link space to movement."

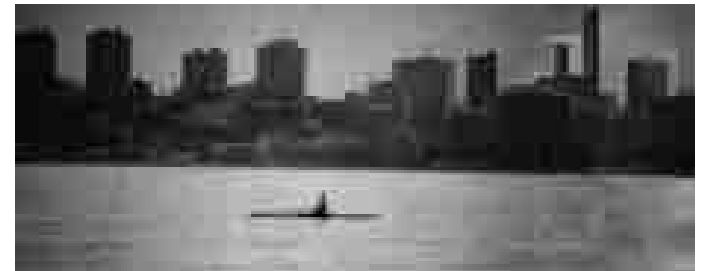
This contingent pleating of the section reveals a strategy of topological folding and unfolding, where different types and programs, unbalanced in both size and scale, are combined not based on a predictable mechanism of twinning and superpositioning, but based on the structural deformation of a virtually "fluctuating" organism.

All of the functional and programmatic parts are significant (co-participatory) elements in the final configuration of the project, whose definition responds, in fact, to the irregular evolutions of a trajectory of advancing and cutting back "full-empty", which is significantly dendritic, clustered or trimmed back, similarly to the other designs that are discussed earlier on in the chapter. Its ambivalent nature lies, more than in its mixed programmatic logic, in this condition of a "hollowed out", "embedded" volume, half way between full and empty, building and sky... matter and light.

In this sense, the building is revealed as a "shifting" envelope, which expresses its internal movements through a protective and sensitive skin that is receptive to the changes in the building but also in light and over time: a metallic fabric made of different swaths and colors (a fabric made of intertwined stainless steel wires), whose waves create the effects and oscillating reflections of a moiré pattern.

The fabric juxtaposes the reflections of colors from the surroundings with transparencies and the expression of what is happening behind it:

"Perhaps the most important thing is that the scale of the sky-scrappers does not diminish, but rather, quite the opposite, it is imposed on the city as an even greater bet. Double or nothing."



8.34. S&Aa (Soriano-Palacios); Cultural Centre and Auditorium of Benidorm (Alicante, 1993). The building resonating with the context (photomontage).

VIII. Back to Rockefeller Center

Tying in with the previous ideas, it is worth turning back to our observations on **Rockefeller Center**, which we initiated at the opening of this chapter, to compare its fundamentally positional (modern) approach with the dispositional (advanced or informational) approach we are concerned with here. Although we do recognize a purposeful three-dimensional, sequential, fragmented and apparently dynamic composition in the project (Giedion himself uses the building as an emblematic illustration of the stereoscopic vision of modern space), the whole is still laid out as a closed mechanism more than an open dispositive device: in effect, its planimetry proposed a spatial “correlation” between autonomous objects in relative positions. Volumetric positions referred to a prior “exact” and hierarchical definition, where the smaller buildings show a strict alignment of their façades and outlines with the street, and the larger buildings are brought together based on a framework in the shape of a cross or a swastika, which subjects the volumes to a pre-existing regulating outline. The interstitial void appears, then, as the remnant, which is not part of the systems, since the positioned “object” takes precedence over the system used for positioning/distancing: in other words, the possible and variable sequential iteration of “full-empty” which characterized the distributive structures we have been analyzing.

In fact, rather than discontinuous sequences of interconnected events, we see reiterated series of fragmented mechanisms: as such, we have a static “(com)position” of fragments rather than a dynamic “combination” of movements.

Rockefeller Center, then, responds to a positional order – fragmented but still fixed and deterministic – that lays out the “whole” complex and stabilizes it cohesively: this virtual “solemnity of totality” is demonstrated in the unity of its global treatment (coherent, single, pure, essentialist) and in this virtual attachment

between its components, which are linked both structurally and figuratively, within its fragmentation; a coexistence of isolated objects at the “heart”, nonetheless, of a single, homogeneous, cohesive and stabilizing family.

Although Rockefeller Center is, no doubt, put forward as the forerunner (as Giedion asserted) of a complex, dynamic and multi-scalar mechanism, its nature is still “(com)positional”, finite, complete, closed off and essential strict – i.e., static – in its overall conception.

The dispositive devices we are concerned with here, on the contrary, attempt to encourage evolving processes, and systems, of a virtually dynamic order, where we can observe different layers and/in trajectories of discontinuous movements.

Multi-layered devices that are virtually open – incomplete, indeterminate and informal – which demonstrate their changeable character, whether it is through “anti-natural” fusions between types, fabrics and heights (**Kollhoff or Bru**) or through the accumulation – eruption – of diverse abscesses that express contingent “narratives” (**MVRDV**, bottom image) or through the use of section as a flexible membrane with the potential to be distorted or (re)adjusted as need be (**Duwendsee-Kreplin, Soriano**). They all define developments that are always supported by the open nature of evolving processes which cannot be defined solely on the basis of mechanisms of outlining or regulation, but rather based on this dynamic and irregular drive for three-dimensional discontinuity and growth, which promotes the combination, within one organism, of different and heterogeneous movements – and developments – that are intended to group, cluster, gather and stack, but also to deploy, reduce, hollow out and/or dissipate.³⁸



IX. Oscillations X, Y, Z

Posterior developments seem to have fostered a whole series of experiments which – based on a specific urban definition – have been dedicated, with a marked conceptual force, to delving into this kind of devices linked to isolated concentrations and accumulations generated by movements founded on an evolution in section.

Designs like the ones by **F.O.A** or **NOX** for **Ground Zero** in New York or the projects by **MVRDV** or **NL** for **Donau City** in Vienna, or even the **Y-Building** in Amsterdam³⁹ were going to propose, at the beginning of this century, contemporary solutions – based on the idea of pseudo-spontaneous offshoots or sprouts – which heighten their dynamic condition through the conception of trajectories based on vertical mutation or patterns of complex generation using a rich and virtual “alphabet” (X, Y, Z, H, etc.) of spatial configurations joined together into strategies of linked or syncopated rhythms and variations.

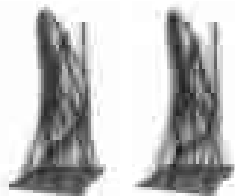
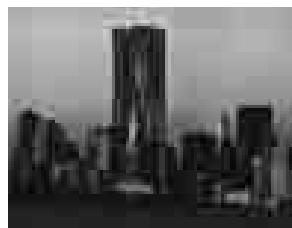
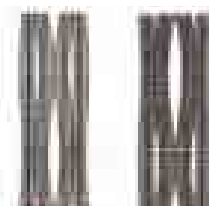
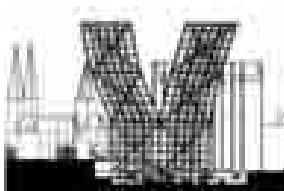
Located in **Donau City (Vienna, 2000)**, the uneven towers designed by **MVRDV** are meant to establish themselves as symbolic icons of present day urban density and urban life. Taking advantage of new technologies in the field of structural engineering and elevators (vertical or inclined), the proposal opts for a new type of “unequal” vertical complex formed on the basis of the freeform growth and movement in section on the part of each of its components.

Each of the towers – with a footprint of 900m², the maximum permitted by the building regulations – can be broken up or bent according to different degrees of twisting, variation and/or “branching”, which lets them “embrace” one another or distance themselves in a unique choreography of free movements that ensures possible connections in section and shared, intermediate slabs intended to house mixed-use functions – private and collective – transforming the whole into a virtual

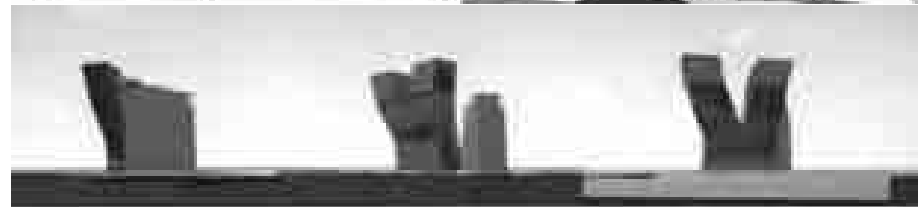
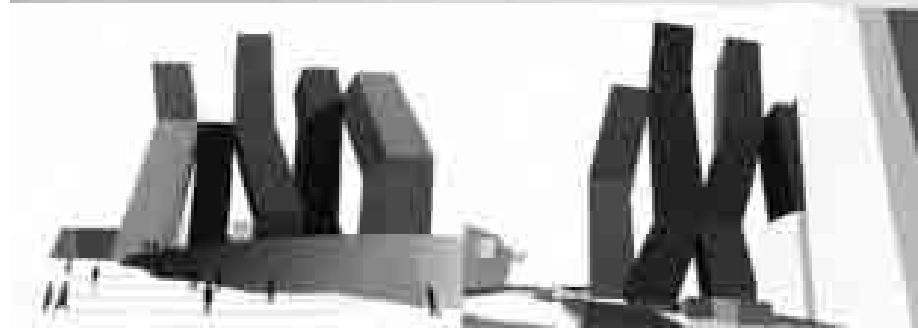
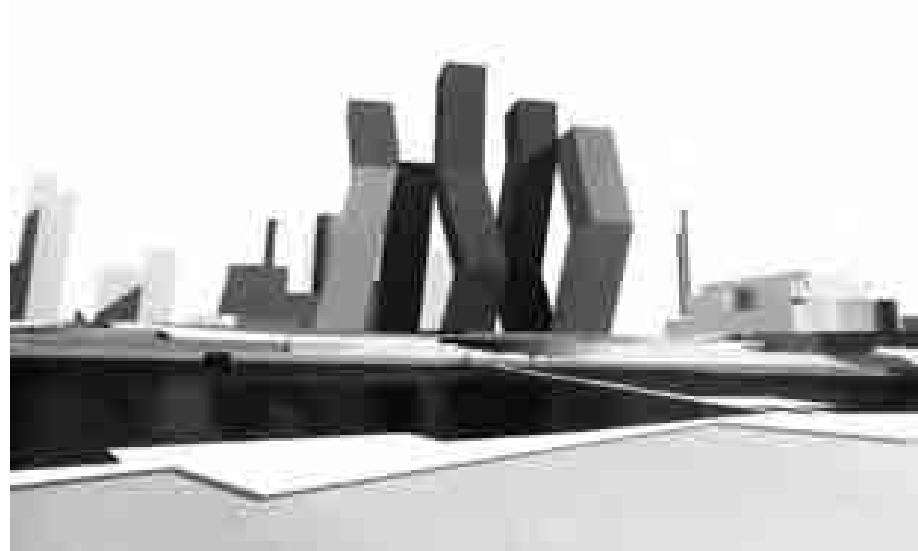
8.35. F.O.A. (Zaera-Moussavi): Proposal for Ground Zero (New York, 2002).

8.36. NOX (Lars Spuybroeck): Proposal for Ground Zero (New York, 2002).





- 8.37. MVRDV (Maas-De Vries-Van Rijs): Donau City Group (Vienna, 1999-2000).
 8.38. NL archs. (Bannenbergh-van Dijk-Klaasse-Linnemann): Y-Building (Amsterdam, 1999).
 8.39. F.O.A. (Zaera-Moussavi): Proposal for Ground Zero (New York, 2002).
 8.40. NOX (Lars Spuybroeck): Proposal for Ground Zero (New York, 2002).
 8.41. MVRDV (Maas-De Vries-Van Rijs): Donau City Group (Vienna, 1999-2000).
 8.42. NL archs. (Bannenbergh-van Dijk-Klaasse-Linnemann): Y-Building (Amsterdam, 1999).



three-dimensional city made up of elements that are both independent and articulated and that, like the city itself, can be built in stages and modified or altered in an endless series of combinations.

Vaguely related with the others – for its shoreline location and its branching configurations, the **Y-Building (Amsterdam, 1999)**, designed by **NL**, proposed a strategy based on spatial doubling, intended to expand the installations of the **Harbor Building** designed by **Dudok**, with the goal of doubling the building's surface area, to reach 12,000m².

Whereas, both the site dimensions and the height limitations as well as the historic nature of the existing building make the operation more difficult, the proposal designed by **NL** – like an exercise in contingent ingenuity – consists of replicating, mutating, the existing building, manipulating it, pulling it open and distorting it simultaneously, in order to colonize the three-dimensional space more freely and more functionally (from a visual point of view and in terms of orientation) beyond the limits of the plot.

Where the pre-existing **Harbor Building**, in fact, enclosed two free-standing towers under its unitary appearance, which were “wrapped” in a single façade, the new “clone” separates the towers into two elements that are “twins” yet independent at once, which “sprout” from the same common base – like a virtual Y-shape – rising and separating in two movements of shaking and twisting” that are frozen in space, demonstrating the connections and the differences between a “pre-deterministic” logic of design and one that is more “indeterminate” and “informal”.

These strategies of bending and breaking – or fraying – in space make way, in **FOA's** initial proposal for **Ground Zero (New York, 2002)** for a real vertical bundle of towers, conceived in turn as a new type of skyscraper with an evolving premise.

The proposal seeks to expand (in every direction) the large built volume of the whole without losing, however, a certain effect of lightness and hollowness.

Instead of dividing the whole into two large independent

elements, as was the case with the former **WTC**, the design creates a complex spatial tangle of towers that are independent and interconnected, where each is given a specially suited surface area in plan (avoiding excessively deep spaces) and they work as a large braid of “fibrous” structural elements with a cylindrical base – 18m. in diameter – whose structure is, in turn, supported by another tubular structural framework – isomorphic in its definition – on the façade.

Arranged in a circle, each of the built cylinders swings and bends vertically to lean against one another – at approximately a third of the total height – creating an organism that is “negotiated” in space, in a recursive relationship with the structural braiding of the façade, in an exercise of interplay between scales, frequent in the authors' work.

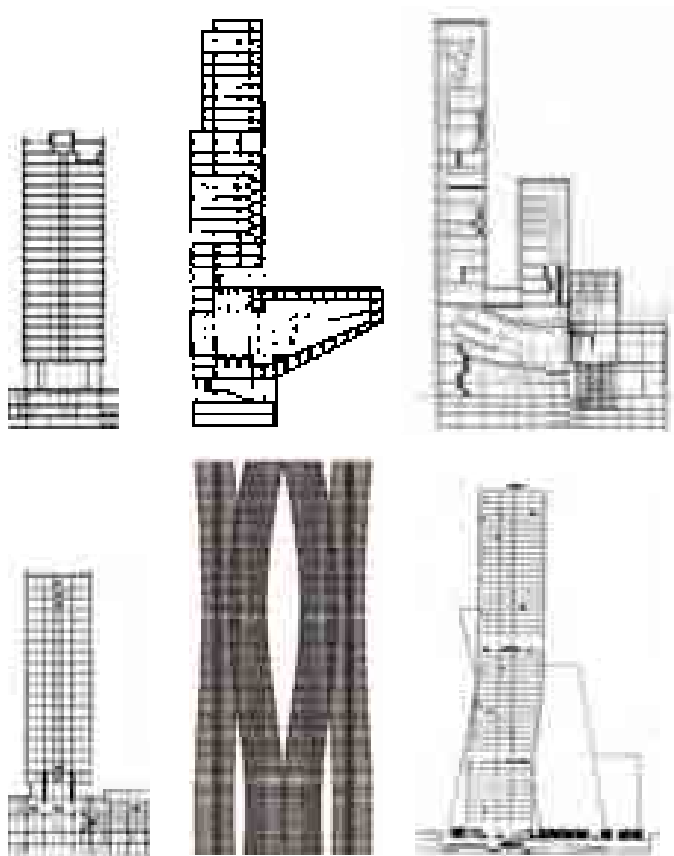
With an approximate surface area of some 110,000m², served by a fleet of 12 high-speed elevators, each tower is then articulated around a central core for vertical communication, which follows a single linear trajectory inside each swaying piece, creating systematized variations in depth between the core and the envelope and, as a result, a wide range of different spaces for work and other activities.

These strategies of flexible deployment and spatial braiding can also be observed in the proposal designed by **NOX** for **Ground Zero (New York, 2002)**, a more complex – though perhaps less structurally precise – formulation that brings together the ideas of offshoot and grip into one dispositive device of spatial generation and dynamic fluctuation.

Although in appearance, in this kind of architecture, fine-tuned gestures and open movements could be confused – referencing a movement of deceptive objectual “gestrategies” (*gestualities*) rather than effective urban “geostrategies” (geo-references, the latter, in search of a real redefinition of contemporary developmental dynamics), “gestures” should not be confused with “movements”.

Whereas the first refer to (essentially closed-off) figurations, the latter refer to (virtually open) trajectories.

The results of the final competition for Ground Zero, for example,



Comparative table of different sections and vertical programs, associated with the dispositive devices of offshoots and sprouting discussed here. Modern structural regularity gives way to contemporary (infra)structural irregularity.

8.43. Two historic examples of the Modern logic: Mies van der Rohe, Westmount Building (Montreal, 1965/1968) and A. Jacobsen, SAS Building (Copenhagen, 1956).

8.44. Duwensee-Kreplin: Urban Megastructures, (Rostok, 1990).

8.45. S&Aa (Soriano-Palacios): Benidorm Cultural Center and Auditorium (Alicante, 1993).

8.46. Proposal for Ground Zero (New York, 2002).

8.47. MVRDV: Donau City Group (Vienna, 1999-2000).

illustrate this dichotomy: contrasted with the gestural project design by the team led by **Daniel Libeskind**, the proposal presented by **United Architects (Foreign Office Architects, Greg Lynn FORM, Kevin Kennon Architect, Reiser+Umemoto, UN Studio and others)**, a variation on previous projects, best allows for recognizing the foundations of a new framework for morphogenetic research (dispositional and informational) in that it puts forth the proposal as a large “organism” interwoven from multiple trajectories, with the potential to transform and mutate until it becomes a single vertical vector, uniting systematics and diversity, not in a “sculpted” object, but rather in a field of movements: one and many at the same time.

The struggle between these two inclinations – static and closed, object and process – has marked not only contemporary architecture itself, but also most of the interventions that have characterized urban conceptions dating from the beginning of this century.

Whereas some interpret the city as a game board, where inert objects are to be placed, others approach it with a more geographic perspective, like a huge resonant “field” of interactions.

Here, this also gives rise to dynamic growths but, above all, to a possible coexistence of different types and densities that presage another kind of formation, based on “twinning” (or “conglomerates”) with hybrid configurations, rather than mechanisms of three-dimensional mutation.

We will discuss them further on.



X. Grafts and Conglomerates

In certain recent dispositive devices, the concept of “accumulation” and/or “(re)growth” has appeared heightened through “coupling” or “conglomeration” – the bond or hybrid contract, in a single design, of various, and even apparently unbalanced, laws of configuration: twinning – and deployments – that allude, in turn, to a city made up of multiple “encounters” (“states” and “strata”) generated in developments which are no longer homogeneous, but cross-bred, superposed, open to the possible combination and/or coexistence between autonomous processes – unstable, diverse, heterogeneous – intended to encourage its own dynamics of transformation.⁴⁰

The reference to the geological concept of a conglomerate is interesting insofar as it involves coupling or the contribution of materials with different origins, different grain sizes, roughness and/or morphologies. Conglomerate, then, as an irregular coagulation or mixture of structures with distinct densities and configurations, nevertheless united into one compact and concentrated volume.

This condition of irregular compactness or condensation can be associated, due to their heterogeneous “morphology”, with many of the characteristics belonging to the dispositifs we are concerned with here.

The very idea of a combination (“interconnection” or “inter-collaboration”) between “foreign organisms” in an irregular interaction (different “layers” of information in an “operative relationship”) refers back to form itself (and also – above all – to more specifically urban form) and its disintegration (as a harmonic and coherent body) into new simultaneous groupings intended to promote coexistence and union – negotiation – between disparate messages.

8.48. M. KAJIMA, J.KURODA, Y.TSUKAMOTO: Made in Tokyo, ed. Kajima Institute Publishing, 2001. Superposition with a photograph of Houston, from the “Paris-Texas” script (1988).



Mixed conglomerates that are revealed as structures for relating developed in a virtually commensalist manner, some within/on top of others and which refer back, in turn, to the interpretation of a city that can only be represented today from the standpoint of a superposition of combined layers of information (like in the readings from a scanner or infographic maps made using GIS, based on data that is interconnected, though not necessary symbiotic).

This “multi-layered” superposition only expresses the potential of a new type of programmatic and structural “contract of simultaneity” that breaks (with) the old idea of typology and the rigid association derived from the equation form=function, giving rise to new “psuedo-typological” geographies based on contribution and connection; “anti-natural” contracts, which are ultimately torn between the sum of (episodic and inert) effects and the matrix-based (infrastructural and evolving) interaction that concerns us here.

The aim is not to point out a “loss” in this absence of apparent internal coherence, of substantive purity, but rather, on the contrary, a positive capacity for interaction, intended to promote “encounters” (grafting, connection) between two or more pre-existing codes of information, which do not necessarily need share a cohesive link.⁴¹

“[A graft] applies living information to the stock in order to produce and organic ‘reaction.’”

Breaking with the notion of an “enclosure” as a pre-formed perimeter, as the substance of the object – the precise and univocal definition of profiles, silhouettes and outlines – and their dissolution (or mixture), erasing hermetic borders and limits, tends to favor fertile relationships of mixed exchange – “genetic” or “structural” – which ties in, in turn, with the notions of “twinning” or “grafting” we have been discussing here: operations of programmatic and morpho-structural “hybridization”, of an irregular nature, that fundamentally refer back to a positive interaction between a “flexible” or “receptive” support structure and the couplings – or grafts – from another hypothetical “associated”

structure. The stock “feeds” the new grafts, which improve and complement the initial conditions (like in the animal kingdom, where certain parasitic species join with others that act as “hosts”, thus maintaining the parasites) demonstrating the beneficial potential of the graft (twinning or cutting) and its possible multiple nature.

These operations of connection and contribution – i.e., of generative interaction – express the possibility of establishing beneficial and implicitly evolving exchanges; they are mutable and mutating at the same time.⁴²

Beyond its mixed-use condition, it is worth highlighting the strange hybrid nature of twinning and conglomeration as an organizational device, as an irregular “assemblage”, or “regrowth”.

Although we might associate the term twinning with the idea of a “graft” or a “cutting”, and the idea of a conglomerate with the notion of “coupling”, it is interesting to emphasize the possible “contract” or “agency” between types, codes and scales that is implicit in the mixed nature of the dynamic formations that concern us here.⁴³

Resulting in effective anti-types, intended to approach scenarios that are definitively lacking in formal typification. Anti-types which – as in the contemporary scenario itself – overlap different objectives and interests, not in harmonious bodies, but in apparently diachronic, yet nonetheless simultaneous, scenarios made up of structure, forms and identities in a relationship of commensalism.



8.49. Conglomerates (in Jacques HERZOG: “The Hidden Geometry of Nature,” *Quaderns* no. 181-182, 1989).

XI. Fragments and Strata: Coexistences

Although it was based on an a strategy rooted in an iconographic patchwork, rather than spatial twinning in a strict sense, this possible coexistence of superimposed universes was intentionally adopted in certain working methods used early on by **O.M.A.**, especially at the end of the 1980s.

Their designs were often formulated as basic support structures (functional strips – horizontal layers – in urban planning projects, or as vertical strips – vertical layers – in building projects), which had the potential to articulate organizational mechanisms, free-form developments and heterogeneous events – and “types”⁴⁴ – associated with contemporary “extra-urban” mixed uses. This “bastardized synthesis” of a “re-imported” urban periphery was explored paradigmatically in the **Netherlands Dance Theater (O.M.A., 1987)** in the Hague:⁴⁵

“‘Industrial’ type warehouses, ‘covered galleries’, ‘independent satellites’, self-supporting roofs, mixed structures...in the Dance Theater, any old harmonious yearning for continuity becomes a mere evocative chimera in the face of these fragments of the outskirts that have suddenly been brought together.”

The design brief recognizes this cross-bred intention in a building that is conceived as a mixed response to surroundings that have been stripped of their character, but it also highlights the intrinsic tendency toward “condensing” disperse urban fragments, on a site that is, in turn, built out of “conglomerate” urban fragments.⁴⁶

In this sense, although the project for the Dance Theater in the Hague tried to consciously play with the idea of a certain, ambiguously critical, “logic of fragmentation” with the potential to synthesize the fragmentation of the generic city and of the building’s own context (a “perverse” context contrasted with the lyrical “postmodern” evocation of the historical city, in fashion at

the time), its “unconcerned” appearance with respect to the – final and formal – configuration and compositional detail – as well as its “bastard” appearance – introduced a demonstrated degree of formal and conceptual “impurity” into a public building for the first time, which is interesting to point out in this context. An impurity that was more calligraphic than genetic – or logistic, which nonetheless served as a forerunner many subsequent investigations.

The whole appears as an assemblage of fragments – and anti-type – which refers back to the multiplicity of contradictory – connected – typological codes, which was also used, some years earlier, in the **Multiservices Complex (Bordeaux, 1966)** design by **Jean Dauriac** and **Pierre Lafitte**: an anti-natural alloy of “contradictory”, public and private, typologies (parking, market, offices, auditorium and cultural center) fused together,





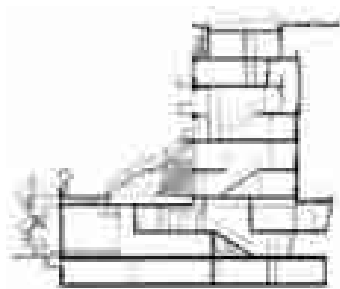
8.51 and 8.52 The two images side by side help us compare O.M.A.'s Dance Theater (The Hague, 1987) with the Multiservices Complex by Jean Dauriac and Pierre Lafitte (Bordeaux, 1966).

more than assembled, into an unprecedented hybrid “anti-type” inserted into the core of the historic city center.⁴⁷

In the context of the well-known **I.B.A.** project, another of O.M.A.’s designs, the **Checkpoint Charlie apartments (Berlin, 1992)** by **Mathias Sauerbruch** and **Elia Zenghelis**, allows for a programmatic demonstration of some of the reflections developed by the team up to that point,⁴⁸ due to the special initial organization of its program, as well as its particular location, on Friedrichstrasse next to the former checkpoint on the border between East and West Berlin. The building emerges as a concentrate – on a detailed scale – of all the “dynamics of urban accumulation” expressed by the **O.M.A.** team in the majority of its metropolitan proposals, and for which Berlin was meant to serve as a symbol.

In this sense, the section is revealed as a key method of spatial and urban configuration in that it proposes a series of multi-programmatic layers which favors morphological and typological mixture and hybridization, breaking with any possible conventional typological categorization – and codification.

The ground floor, spanning two stories (and entirely occupied by a large parking area, later transformed into a supermarket) is, in fact, proposed as a large infrastructural underground layer; its roof then becomes a new urban “ground”, above which sit five “layers” of apartments with different typologies and varying surface areas.



8.53. Mathias Sauerbruch–Elia Zenghelis. Checkpoint Charlie Apartments (Berlin, 1992). View from Friedrichstrasse and cross-section.

This juxtaposition of types is repeated on the building façades: the courtyard façade is more intimate (evoking the domestic universe of German *Siedlungs*); and the façade facing Friedrichstrasse has a more expressive and iconographic expression, with a “dynamic” organization that develops horizontally, as a direct result of the building’s layering. The whole constitutes a voluntary conglomeration of types, which aims to condense the whole varied range of models tested out in city suburbs by modernity: single family row houses, narrow apartment complexes, industrial warehouses, shopping centers, peri-urban parking lots, etc. It is a slice of the periphery brought into the city center, contrasted with the traditional single typology of Berlin’s *Mietkaserne*.

In this sense, the **Checkpoint Charlie apartments** can be related with the **Kulturhuset in Sergels Torg (Stockholm, 1964-65/1970-1975)**, designed by **Peter Celsing**, another paradigmatic forerunning example of formal and programmatic blending.⁴⁹



Conceived as the programmatic response to a heterogeneous program including a theatre, an auditorium, and a cultural center (intended to house exhibitions, lectures and meeting areas) in addition to offices and commercial space for Sweden's central bank, a hotel, and premises to be occupied by the Swedish Parliament, the proposal appears as a metaphorical urban "macro-micro-organism" made up of connected juxtapositions and superpositions where diverse pieces coexist simultaneously and independently, which are (formally and iconographically) proposed as virtual, functionally indefinite, "abstract containers" that presaged the crisis not only of orthodoxly univocal typological models, but of any desire for "overall coherence" in a program involving such diverse characteristics. The varied characterization of the different images of the whole (the "clean" objectivity of the cultural center is contrasted with the immense and symbolic artifice of the Swedish Central Bank or the functional neutrality of the International Hotel) provides an overall vision made up of disconnected emergences and heterogeneous manifestations, which are nonetheless united, on the lower level, by an enormous shared and invisible layer (the "underground infrastructures", which are revealed here as well as authentic "support arteries": building services, facilities, service rooms, as well as transportation networks and the associated public entrance spaces. The overall result allowed for recognizing certain themes with surprising precision, such as urban indefiniteness, infrastructural layering or overcoming context, which are fundamental in numerous disciplinary reflections later on, articulated around phenomena – and operations – involving hybrid programming.⁵⁰

These "mixed mechanisms" – or "mixed use" accumulators, as they have been called on more than one occasion – form combinations which, through the explicit manifestation/confrontation of their programs, bring together the program of demands and the associated tensions expressed in, by and from them.

However, and despite its "bastard" configuration, which is fundamentally "mixed", the projects in **Bordeaux** and **Sergels Torg**, as well as the projects in **Berlin** and **the Hague** – and probably more recent projects like the **Bilbao Auditorium (1995-1998)** designed by **Soriano-Palacios** or the enlargement of the **American Library in Berlin (1989)** by **Steven Hall** – are revealed more as possible mechanisms for strategic (and intentionally "perverse") juxtaposition than as evolving devices with a combinatory foundation.

In all of them, the aim is to explore a possible anti-composition of fragments – a patchwork or collage of episodes that are interconnected by a conceptual and structural framework – rather than a possible or hypothetical "operating system":⁵¹ In this sense, although the examples of twinning presented up to now share the same "decoding" interest as "collages", they also suggest a more "explicit" desire for interaction and interconnection; for global synergy. An "implicit" capacity for combinatory changes and exchanges with the potential to promote variable "assemblies" or "couplings" (i.e., a more or less recognizable system for development based on acting via generative "hybridization" as opposed to perverse "addition".



8.54. Peter Celsing: Sergels Torg, multi-functional complex (Stockholm, 1964-65/1970-1975).



XII. Hybrids and Mixed Use

This vocationally “hybrid” nature of the contemporary productive machinery was the focus of much of **Steven Holl**’s work, as we have indicated previously.

In most cases, the approaches are based on this wish to explore possible “anti-types” for a city that rejects “the formal or programmatic typification of the contemporary city”.⁵²

Anti-types that respond not only to diverse types of programmatic twinning, but also to multiple and localized events and stimuli related to “intersections” – whether they are territorial, perceptive, morphological, etc. – inherent in the scenarios that are commonly subject to the synchronous effect of simultaneous scales and reference points (city limits, border areas, etc.) and the clash between multiple configurations.⁵³

“The hybrid building is an anti-type: That programmatic configuration produced specifically, as a phenomenon rather than as part of a structure or organization. The hybrid building is the materialization of the ‘inorganic composition of capital’ which, from being characteristic of the American city, becomes a generic feature of the late-capitalist one.”

Despite the “mixed” intent shared by both structures, the difference between a mixed-use building and a hybrid one lies, however, in that whereas the former tries to “miniaturize” the functional complexity of the metropolis (universalizing – independently of the place – the very experience of an urban clash), the latter (as we understand it here, as the result of an operation based on an interaction and coupling between programmatic, structural and scalar forces and/or tensions) attempts to promote an association – and ambiguous contract – with the place.

8.55. Placing these two images together allows for comparing the constructions on Sergels Torg (Peter Celsing, 1964-1975) and in Makuhari (Steven Holl, 1994-1996). What one of the projects approaches based on a logic of collage, the other proposal is based on a strategy of “commensalist twinning” between types and programs.

In other words, it is a “negotiation” with the specific “circumstances” and “tensions”: based on a possible resonance with global anti-typological processes, which are synthesized by the urban structure itself (as a superior “meta-system”) but also founded on a special attention to the “sound” – or the particular “music” – of the surrounding environment.

Despite the fact that the proposals for the *Edge of a City* project presented earlier already, paradigmatically, introduced some of these considerations, the proposals developed there maximized the condition of their growth as a possible multi-scalar offshoot proposed in a local territory of intersection.

In Holl’s proposal for the **Makuhari Bay residential complex (1994-96)**⁵⁴, however, some of the previous considerations related to the idea of an “accumulation” or “twinning” were going to be expressed in a more explicit way.

A marginal site, on the shores of Tokyo Bay, houses an operation conceived based on the twinning and coupling of two different types of structures: “heavy and silent” built volumes, on the one hand, intended to include the largest part of the collective residential program (housing “blocks” in the strict sense of the term, slightly distorted to favor the entrance of daylight) and “light and active” small individual elements, on the other hand,



like strange “infiltrated presences”, miniature villas, supported by the first volumes, which are “alien” to the overall system at the same time (“overlapping” elements intended to promote personal singularized programs: like “individual sounds above a silent mass”).⁵⁵

“The silent buildings define the form of the urban spaces and the passageways with small flats which are reached via the courtyards or interior gardens...The celebration of miniatures and natural phenomena are taken up again by the active light strength of personalities and individual schemes. These individualized sounds invade the silence of the reinforced buildings.”

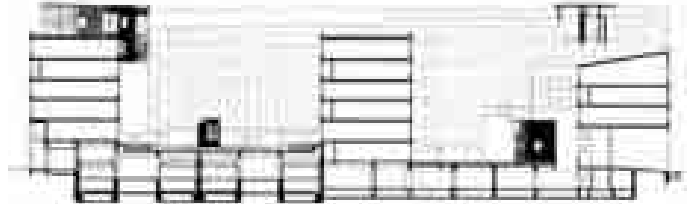
Rather than the mutation of a single system – the idea of an “offshoot” – here there is an open combination of different “organisms in synergy”.

A kind of playful, cheerful, –again – “informal” exchange between “small and large”.

“Dwarfs and giants” once again. Together. Joining hands. Sizes, scales, forms and programs in mutual cohabitation and interaction.

In other words, in atypical situations in that they are a-typological.

Associated configurations, rather than harmonic ones.



8.56. Steven Holl: Residential complex in Makuhari (1994-96). General view, elevation and cross-section.

XIII. Grafts and Commensalism: Cohabitations and Multi-valences

These couplings – or accords – between heterogeneous structures, which are suddenly synchronous, ties in with a hypothetical hybrid production capacity (through regrowth and/or overlapping) generated in situations of synergy and derived, rather than from an unequal evolution in section “of” and “in” a single organism – sprouts (or bluntings) – from grafts, twinning or overlapping, between different organisms combined – coupled – into virtual commensal contracts. Irregular complicities (more than contradictions) which correspond, on the other hand, to this “predominance of permissiveness over coercion,” as the philosopher Guy Scarpetta declared:⁵⁶

“Our everyday culture is fundamentally heterogeneous: large and small mix together; they overlap; they are nearly inextricably confronted. Perhaps the most shocking example of a heterogeneity of this kind affect the very idea of gender.”

This possible “commensalist nature” of most of the hybrid twinning devices we are concerned with here, allude to the individual and coordinated condition of certain functional bodies housed – hosted – in others (and at their expense) as virtual dependent guests.

A tacit dependence, common in certain customs within the animal kingdom, which helps us recognize different types of commensal contracts and which also implies mutual benefits and exchanges; but also a possible – real or virtually “uncertain” – “cohabitation” that connects to possible contractual agreements that are not binding or cohesive, but rather contingent in

Twinning and grafting dispositifs allude to an operation of commensal hybridization and coupling which refers to the interaction between a “flexible” (“receptive”) structure or pattern of support and feeding and the insertion – or grafting – of other patterns intended to improve or enrich the initial conditions.

8.57. Steven Holl: Residential complex in Makuhari (1994-96). Twinning and/through overlapping

8.58. Commensalism and parasitism: rhinoceros and bird (Zoo Animals, Warne & Co Ltd., 1972).



appearance – and nature. While the host organism helps guarantee support, the commensal provides certain unforeseen services for the host's operative capacity.⁵⁷

This class of saprophytic parasitism refers to different degrees of coupling and appropriation between two types of bodies, ones that provide support (means) and others that contribute (mediators), which implies a type of "clientelism" that is not necessarily negative – or even definitively binding; it is all the more effective the more both positions are "inter(in)dependent" in said dispositions-operations of twinning, grafting, coupling – cutting – generated between different codes of "information/formation" that are inserted, or simply arranged, one atop the other.

The classic example of the commensal relationship between the rhinoceros and the bird allows for illustrating these considerations: although both organisms are recognized as essentially distinct, their implicit contract gives rise, at times, to a new and strange zoological "meta-organism" that is more impure and discontinuous, more fleeting and dynamic, more fluctuating, variable and "figuratively" unstable, i.e. less classifiable: a "rhinocebird" (rather than a rhinoceros and a bird, essential and univocal) as an ambiguous hybrid condition between two "dissimilars" that are suddenly individual and collective at the same time.

This dual coexistence between the individual and the global is particularly evident in the project by **Eduard Bru and OAS** for their **Housing in Cerdanyola (Barcelona, 1994)**.⁵⁸

The opposition between structural and morphological systems that occurs in the territory (between the large-scale infrastructures that cross it and the disperse, nearly clandestine, urban developments dotted across it) translates into a "direct twinning between two types of built forms": on the one hand, a neutral base, four stories high (with the same conceptual category as a viaduct or an elevated surface), and on the other hand, a series of small individual volumes settled on the roof, which relate to the small disperse particles that characterize the neighboring structures of occupation.

In this context, the infrastructures that cross the territory, above ground, constitute a new virtual ground plane, elevated with respect to the natural level: a new "horizon" that forms the authentic level of the terrain (inventoried by the metropolitan scale through the communications that cross the territory") onto which a series of small-scale, discontinuous episodes are developed.

In effect, the project is proposed as a "condenser" of the landscape that surrounds it and, at the same time, as an ambiguous critical organism of multiple hybridization, as autonomous and delocalized as it is specifically "singular". An infrastructure and a condominium at the same time.

A number of recent experiments have also delved deeper into this vein, open to the potential of a mutation based on a bastardized cohabitation – and parasitic commensalism – rather than a harmonious coexistence.⁵⁹

The combination of layers with different configurations thus materializes in the disposition of, on the one hand, basic structures – which are repeated, predictable and/or "neutral" – and, on the other hand, singular and/or overlapping elements, conceived as out-of-place structures, which are variable and indeterminate in their formal manifestation. Whereas the "typical" spaces were generally housed in the initial base – ensuring a ground level or structural "body" – the free development of the combined pieces created a second level, which overlapped the first but was also independent.

The "basic" lower levels acted, in fact as the "infrastructure" for the whole: supports or platforms, above which other bodies would rise, which were both indeterminate and purposefully "random", proposed on the basis of complete formal and distributive freedom, and which responded to an attempt at separating the concepts of "form" and "type" based on a "morphological" heterogeneity, with the potential to promote an alternative understanding of the trinity "city-urban design-construction", by coordinating systematic elements with apparently coincidental ones.



8.59. Eduard Bru & OAS: Residential block in Cerdanyola (Barcelona, 1994).

8.60. Kas Oosterhuis: Residential complex (Groningen, 1995-1996).

8.61. Sasa Randic – Idis Turato. multi-use building. Zagrad Centre (Rijeka, 2003-2004) // Edouard François. Mixed Habitat (Champigny-sur-Seine, 2013).

XIV. Overlapping. Dual Contracts

Some of the work done by **Actar Arquitectura** at the end of the 1990s (**Son Gibert-Mallorca, 1993, Graz, 1996 and Mulhouse, 1998**) pursued this line of action.

In all cases, they are variations on the same theme: a variable – never rigid or strictly equidistant – irregular succession of basic pieces (unequal blocks with internal movements and their own deformations) drawn upon to break up urban space, generating spatial guidelines for relation and combination.⁶⁰

In this case, the idea is also to articulate “plinths in movement” as syncopated bodies intended to admit distortions and mutations in their different layers, but also to incorporate “domestic” elements recovered from the pre-existing reality (from maintaining a small villa, to other recovered constructions) as well as other possible random presences housed – like “chance accidents” or “infiltrated events” – in the initial structure. Elements that are unconnected to the laws of the system, but incorporated into it.

In this way, for each situation, the dispositif generates a new rhythm in the place, intended to resonate with the different vectors that intersect there, more like a strategic cadence than an imposed order: an elemental sequence of parallel lines (that of the projected residential units) weaves the plot together as a generic matrix or a variable “bar code”, intended to deform locally according to the demands and the events (or accidents) that have the potential to distort (or disturb) the initial rhythm – or guidelines.

The residential units are, in fact, variable: they can grow up to three or four stories; they can house businesses and services (with loft spaces) on the ground floor, with different forms and surface areas, and overlapping volumes on the higher floors, with different subtypes.

The very notion of “overlapping” alludes to a particular type of twinning, coupling, support or overlying, occurring between elements of a similar strength.

If the notions of commensalism and parasitism carry notions of difference and disproportion, overlapping implies a certain “equality” or scalar similarity, i.e., a certain simultaneity of sizes, forces, tensions and situations.

Between these unequal and overlapping blocks, “intruding” elements are introduced, as we commented earlier, with their own autonomous geometries, and even preexisting elements, preserved in an ambiguous manner, between strategic and sentimental.

The distribution of these counterpoints allows for the location of various facilities, as well as the articulation of interstitial – in-between – open spaces, handled on the foundation of “wedges” of different colors, materials and textures (vegetable and mineral, natural and artificial).

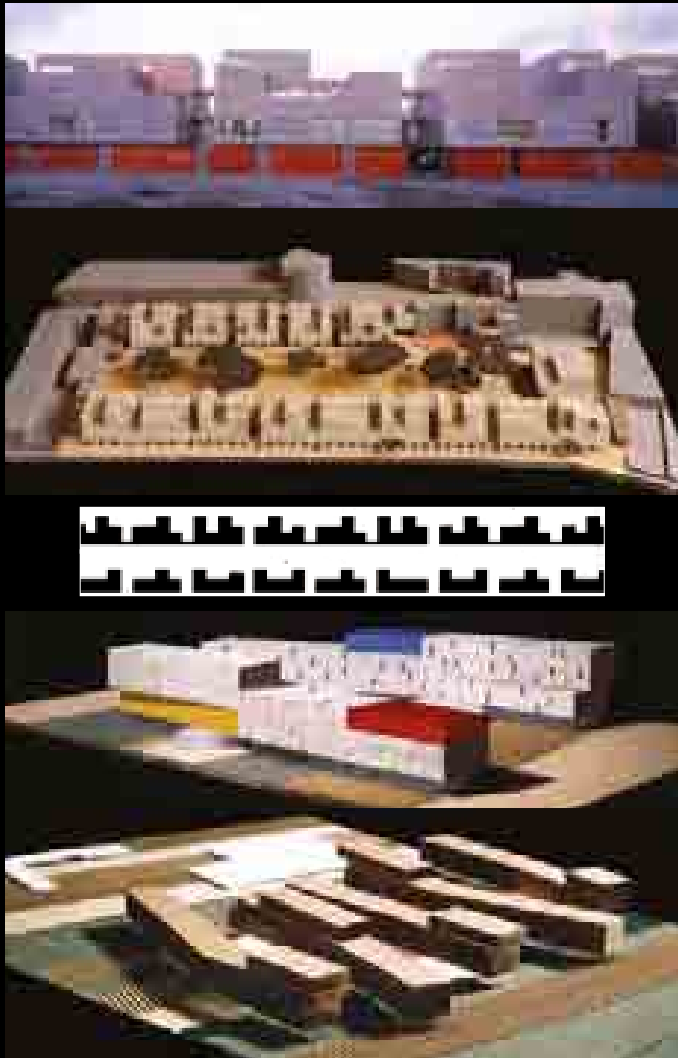
In this “counter-balanced” disposition, we recognize the intermittent dance and counter-dance between related figures, which we pointed out in the previous section.

In those syncopated movements we can see an open sequential agency, rather than a fixed or rigidly positioned spatial organization.

In other words, a disjunctive apparatus between intermitting pieces called on to lend rhythm to space and empty it, at the same time. On the level of the inhabited cell, the project is conceived as a variable and recursive application of the general dispositif that was adopted, associated with the ABC system, proposed as work on the notion of “guidelines” and their instrumentalization as a possible generator for diversity given minimum housing standards (70m²): using three semi-prefabricated modular elements (equipped walls) corresponding to the pieces *A-Acumulador* (“collector-closet”), *B-Baño* (“bathroom”) and *C-Cocina* (“kitchen”), and based on a “guideline” of parallel bands which articulate – in all senses – the possible lengthwise variations generated, different freely combined spatial subtypes are created, at the same time, in elevation.

8.62. Neutelings-Riedijk: Hollainhof residential complex, Gant, 1995-1997.

8.63. Actar Arquitectura: ABC system. Residential complex, Graz, 1996.



On the façade, the variable manifestation of each of the modules creates a diversified rhythm of vertical edges, of different colors, combined with the superficial parameters planned for the enclosures (glazed, opaque, fixed, sliding or protective).

In this syncopated sequence, the different built bodies not only occasionally deform their basic volume, but also their profile and superior configuration, creating movements of coupling and distortion on the higher floors, resulting from the new pieces that are inserted, intended to house spaces for mixed-use, workshop-residence spaces.

The whole is thus manifested as a possible distribution of serial and individual elements at the same time.

Broken volumes with incorporated humps.

Their respective movements identify them and characterize them based on the same shared logic: that of autonomous organisms that are also sensitive to the different noises from the surroundings.

“Like large animals craning their neck toward the sounds coming from around them.”

Certain experiments devised by **Willem Jan Neutelings** around the same time could be addressed in similar terms.

Among them, we would highlight his **residential design for Ghent (1996-1998)**⁶¹ proposed as an exercise in an ambiguous correlation/combination between rigidity and randomness, but also between globality and specificity.

Based on these premises, the 15 units – from eight to ten apartments each – are developed, which make up the urban façade of the proposal. Each of them (and all of them at once) consists of a continuous base of identical apartments, which gives the whole a shared foundation, above which the “tailored” silhouette of the top volumes stands out.

This creates a series of typological variations based on a “pattern”, which is also elemental here, supported by the divisions corresponding to the party walls on the lower floors: a basic matrix which allows for occupying the full unit, or dividing it in two.

The whole appears, then, as a combinatory mechanism, where

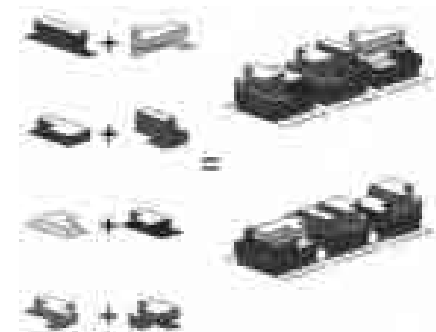
the setbacks and cutouts on the upper floor allow for adjusting the surface areas in each module, generating different subtypes and encouraging an individual, fractalized identity within the whole.⁶²

A similar proposal was tried by **Sasa Randcic and Idis Turato** in the **Zagrad Center building (Rijeka, 2003-2004)** where a strong, unifies and dense lower layer houses a program of housing and tertiary uses, above which a new layer can be seen, strategically indicated through the color red, used to “individualize” the overlapping emergence of an expressively “multiple” body, with diverse used, treated as a fragment of the city that rises up vertically.

The outlined, variable and cut-out profile, connects this proposal (along with some of the previous ones) with the idea of an “offshoot”, discussed in the previous section.

In fact, it is made up of (re)growths conceived as half way between twinning and offshoots, which are called upon to combine both capacities.

However, this commensalist cohabitation between apparently foreign, yet linked, codes or morphologies (a neutral base and variable profiles) relates them more to the first concept than the second and alludes to other similar mechanisms (“grafting”), which Neutelings himself had already experimented with in his design for the **Prinsenhoeke housing block in Sittard**.



8.64. Neutelings-Riedijk:
Hollainhof residential group,
Gant, 1995-1997.

XV. Prinsenhoeck and Via Campania: **Contract and Contrast**

The Prinsenhoeck building – Sittard, 1992-1995, by Willem Jan Neutelings is a model example of these dynamics, configured as a “hybrid” structure with the potential to “act” forcefully on an urban scale and to respond, at the same time, to different specific demands from the place.⁶³

A large-scale neutral base – like a huge infrastructure “imported” from an area on the “outskirts” – also supports a serial succession of individual units lodged on the roof in a commensalist relationship and conceived as translations, in elevation, of the domestic scale characteristic of the nearby surroundings.

The three intermediate floors of the building form a compact rectangular volume that reveals a neutral rhythm of spaces and openings, referring to a possible “infrastructural” condition – a bridge, a viaduct, civil architecture – but also to the “typomorphology” corresponding to a housing block on the “outskirts”.

However, the small “villas” that colonize the topmost profile are revealed as a multiple and clustered combination of individual volumes whose cantilevers and projections outline small spaces forming terraces out toward the city.

The intermediate scale refers to the universal, suburban sphere.

The uppermost scale refers to the individual, domestic sphere.

A possible dialogue can then be recognized, intended to create ties of exchange with the heterogeneous urban global scenario but also with a more local one, the pre-existing villas present in the area.⁶⁴

“Like a play with layers, but also as an accumulation of fragments of the city.”

A small 19th-century villa (which was meant to be demolished according to the planning) is maintained within the new group as a piece that is recycled for communal facilities.

This preserved element is not considered as picturesque

8.65. Neutelings-Riedijk: Prinsenhoek building, Sittard, 1992-1995.

decoration, but rather as a possible opportunity to favor an uninhibited coexistence with a coincidental past.

The building is enriched by this “information” that is contingent in both its essence and its presence, gesturing to it, because there is not relationship of indebtedness.

There is an individuality and an independence between both organisms and, at the same time, there is a capacity for a virtually temporary relationship and interaction. Each object is self-sufficient and establishes a common positive alliance, as in the commensalist relationships characteristic of grafts or couplings, which we mentioned previously.

This hybrid configuration, derived from the inter-relation between globality – systematization – and particularity – characteristics – is also translated into a calculated use of the building materials, which are voluntarily varied (concrete, brick, heavy materials in continuous plinths; wood, sheeting, metals, light materials in the juxtaposed structures) in order to promote a certain dual, ambiguous, and therefore subtly unsettling perception of a design (and a system), which becomes more versatile as it is more decidedly cross-bred.



It is interesting to compare this effective twinning between different structures with a particularly unusual anticipation: the **Via Campania (Rome, 1965)** building by **Vincenzo Fausto** and **Lucio Passarelli**, a fragile glazed cube, in brown tones – intended for offices – which supports an interwoven concrete megastructure with residential program. The proposal sets out – in Renato Pedio's words – to:⁶⁵

“Construct a building in the center of the city as a condenser of its own tensions.”

The Via Campania building is part of a dual road system that combines local traffic and fast traffic: a “link” that is urban and peri-urban at the same time, which presages other possible scales at “the heart of the city”.

If the morphological multiplicity of the building is conditioned, in part, by the necessary functional plurality – intended to articulate different programs on the same plot through a traditionally zoned superposition of uses (commercial on the ground floor, offices in the middle and housing on the upper floors). However, the purist option of enveloping these functions in a single block is substituted, here, by the bold expression, without aesthetic complexes, of its piled-up character and its own internal movements.

The whole is configured as a mixed mechanism that is particularly interesting as an anticipation of future actions: a mechanism that is still based, however, on the contrast between two “autistic” structures.

The Euclidean cube of the office spaces is “contrasted” with the megastructure of concrete trays above it.

Rather than commensalism, there is contrast.

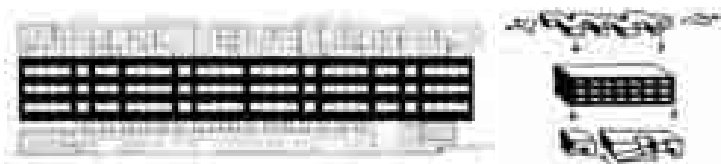
The design is proposed more on the basis of contradiction than cohabitation or contract: based on a confrontation between “rival” effects – the Euclidean rigor of the cube and the brutalist expressivity of the structural metabolism – which create conflict and dramatic tension, as opposed to an operative alliance or coupling.

Although the project allows for recognizing parameters of mixed uses and irregularity, it incorporates very few movements of internal and external relation.

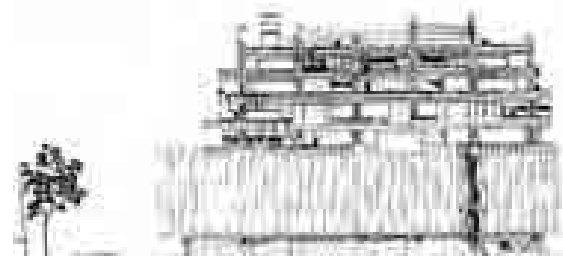
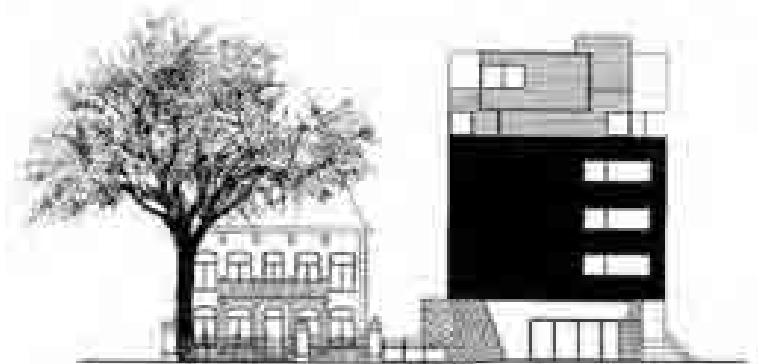
The system, as an objectual “structure”, overcomes the system as generative and/or reactive “combination/interaction”: the autonomous – nearly self-sufficient – character of the whole refers to a more general urban heterogeneity, but it omits local connections – and interconnections, probably because the response is aimed more at the dramatic solemnity of an artifact than the casual “informality” of the dispositif. Although the curtain wall of the office buildings “reflects” the nearby Aurelian Walls – with their different materials and colors – this scarcely mirrored dialog only intensifies the “dramatic-lyric” contrast⁶⁶ between the building's own “compositional” instability – and contradiction – and the compact permanence of a surrounding made up of largely invariable textures.

8.66. Fausto and Lucio Passarelli:
Via Campania de Vincenzo building
(Rome, 1965).
Overview (in *L'Architettura* no. 122,
December 1965).





8.67. Neutelings-Riedijk: Prinsenhoek building, Sittard, 1992-1995. General view.
 8.68. Fausto and Lucio Passarelli: Via Campania de Vincenzo building (Rome, 1965).





XVI. WoZoKo: Parasitism

We have already pointed out how the technique of hybridization by grafting or twinning is, in this sense, different from the technique of collage or assemblage (or simple “montage/bricolage”).

Whereas the latter propose “links” based on virtually “eclectic” and more or less contradictory “juxtapositions”, a hybrid coupling is intense, purposeful and “relational”: not only does it propose connecting pieces, it also generates new interactive organisms – both heterogeneous and cross-bred – for possible evolution, variation, development and growth.

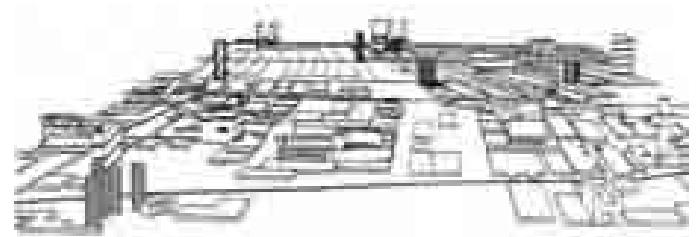
The concept of twinning – or grafting – implies a beneficial contract between the parts, an apparently non-existent link, but which is certainly effective because it is generative, because it is interactive and reactive.

Capable of multiplying internal and external reactions – and relations – at the same time, capable of activating processes of coupling – or superposition – which are more or less explicit and virtually evolving: in “development”.⁶⁷

In **WoZoCo 100 (Amsterdam, 1996)**, the paradigmatic “multi-cantilever” building designed by **MVRDV (Maas-De Vries-Van Rijs)**, the fruitfully “parasitic” presence of apparently autonomous or independent organisms on top of a larger-scale organism is radically demonstrated in the expressive treatment of both the

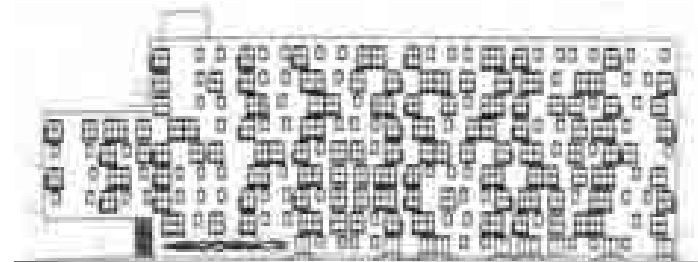


8.69. MVRDV (Maas-De Vries-Van Rijs): WoZoCo 100 unit building (Amsterdam, 1996).
Front views, side elevations and section, and variation profiles



8.70. NL archs. (Linnemann–Bannenber–Klaasse–van Dijk): Pixel City, European IV (The Hague, 1996). Overview of the operation and aerial view of the complex.

The vertical pixelation of the WoZoKo 100 building follows the agricultural patterns in the Dutch outskirts – also brought together in the *Pixel City* project (The Hague, 1996) by the NL archs team – condensing all of the strength of the suburban landscape developed around it.



8.71. MVRDV: WoZoCo 100 unit building (Amsterdam, 1996). South façade. The window as a diversified field-enclave.



8.72. MVRDV: Development Plan for Almere XXI, 1997. The City as a menu of "enclaves", a "place of places"

multiple individual elements (balconies, windows, etc.), that colonize the façade and the large cantilevered outcroppings that flank the building; projections hanging off a main base volume.⁶⁸ As the designers themselves pointed out:

“It isn’t an “extravaganza”; it’s a strategem: a direct and effective response to different demands.”

The project provides a response to a program of 100 apartments intended for residents over 55, in a dense garden city to the west of Amsterdam (Westelijke Tuinsteden).

Whereas the fragile “scale” of the surroundings, as well as the building’s north-south orientation, made a single distribution for the apartments in a large and heavy compact block unadvisable, the final arrangement allows for reconsidering the planned size of the volume by accommodating 87 of the units in a basic, lower-height block and “hanging” the remaining 13, designed using structural steel corbels. Each hanging apartment, conceived as a small individual villa “hooked” onto a collective block, is given a double east-west orientation and, therefore, a suitable amount of sunlight.

In this sense, the twinning of the different cantilevered units favors the configuration of a lower, less strict block, while maintaining the typical “density” of the area and fostering a combination between global unity and local variations at the same time.

We have pointed out how, in twinning, grafting and hybrid coupling, each element acts as itself while actively participating in the totality; both the individual presences (the variation) and the common system (the support) are recognizable all at once. The kaleidoscope of colors formed by the balconies on the southern side of **WoZoKo 100** reinforces this desire for “collective” personalization and diversity, which condenses – and compresses – all the paradoxical strength of the suburban landscape that surrounds it: a vertical pixelation that refers to pixelated agricultural landscapes and the iconographic diversity of the Dutch outskirts.

Diverse variations on the same theme – proposed by **NL architects** in their **Pixel City project (The Hague, 1996)**⁶⁹ – radicalize this eruptive potential of a “horizontal offshoot” in a series of episodes organized across a landscape of agricultural bands – also horizontal – promoting strange multi-scalar relationships (and, thus, an unusual cross-breeding) between farmed sections and built sections.

Similarly to **WoZoKo 100**, the “compression” of a set of elements with variable densities in the same area, organized into hybrid blocks (proposed beyond rigid lineations or regularizations of proportions, but also beyond mono-functional specializations), attempts to respond to the requested high densities using devices of discontinuous condensation and distribution, with the potential to concentrate build volumes and free up space, blending city, landscape and mixed uses.

The irregular distribution of large-scale condensing buildings proposes a possible strategy of occupation/distancing for different locations along urban limits or the transition between the city and the landscape.

But also, as in most of the devices involving (re)growth that we have discussed here, condensing the built area into high-density concentrated devices, not only preserves the specificity of a protected “landscape-open space”, it also maximizes the expression of the urban landscape, made of built “spots-twinning”, i.e., discontinuous volumetric manifestations which are dense and differentiated:

“The design talks about heterogeneity. The hybrid as an expression of the city. Constructing the map, devising the city. City in the building? Silhouette of and in space.”⁷⁰

- 1– See BALLESTEROS, José and BARAHONDA, Miguel: "La ciudad que no se ve," *Fisuras* no. 5, 1998, pg. 60.
- 2– "The great potential and virtue of the elevator is that it can establish mechanical relationships without any architectural quality."
See KOOLHAAS, Rem: "Returning to verticality" in *Rem Koolhaas: Urban Projects*, Quaderns Monografies Series ed. COAC, Barcelona 1990, pp. 13-17.
- 3– See MANDELBROT, Benoît: *The Fractal Geometry of Nature*, WH Freeman and Company, New York 1982.
- 4– "The object-type and the typology-model dialectic came together in an order that in the last instance looked to function, whether this was interpreted from the viewpoint of faith in mimesis or faith in invention as instruments of certainty. However, the contemporary inner space has severed these links."
See ABALOS, Iñaki and HERREROS, Juan: "Mixed Use" in *Quaderns* no. 191 (Large Scale), 1991, pg. 56.
- 5– See ZAERA, Alejandro: "Orden desde el caos," in *Exit* no. 1, 1993, pg. 23.
- 6– See GAUSA, Manuel: *Housing: New Alternatives, New Systems*, ed. ACTAR, Barcelona 1998.
- 7– Many of these figures remind us of certain Koch snowflakes and Cantor sets (lump-free coagulation clusters, conveniently turned 90°) described by Mandelbrot in his work.
- 8– "The incredible energy in such cities [...] is related to programmatic diversity and juxtaposition. Modern metropolitan life is characterized by fluctuating activities, turbulent shifts in demographics and changing desires of restless populations."
See HOLL, Steven: *Edge of a City*, Pamphlet Architecture no. 13, ed. Princeton Architectural Press, New York 1991. See also a summary in *Quaderns* no. 197, 1992-93, pg. 79.
- 9– These considerations are not far removed from the ideas put forward by José Morales. "[In these formations], architecture would somewhat more similar to the line than the point. A deployed and concentrated architecture following lines of force. Gripping onto convexity to spread out in concavities."
See MORALES, José: "Adiós a la metáfora," in V.V.A.A: *Otra mirada*, ed. Gustavo Gili, Barcelona 2010.
- 10– See BRU, Eduard and SERRA, Enric: "Transfer of scale," in *Quaderns* no. 211, 1996, p.81 and the short text SERRA/ VIVES/ CARTAGENA & BRU: "La Mar Bella," published by the authors, 1996.
- 11– For information on the project, see: LUCAN, Jaques: *O.M.A-Rem Koolhaas*, ed. Electa le Moniteur, Milan-Paris, 1990, pg. 108, *Quaderns* no. 175, 1987, pg. 104, *El Croquis* no. 53, 1992, pg. 45 and *Rem Koolhaas: Urban Projects*, ed. Quaderns Monografies, COAC, Barcelona 1990, pg.42.
- 12– From the design brief. See: LUCAN, Jaques: *OMA-Rem Koolhaas*, op. cit pg. 98.
- 13– Ibid.
- 14– See KOOLHAAS, Rem: *Delirious New York*, ed. 010 Publishers, Rotterdam 1994.
- 15– See KOOLHAAS, Rem: "Returning to verticality" in *Rem Koolhaas: Urban Projects*, Quaderns Monografies Series ed. COAC, Barcelona 1990, pg. 13.
- 16– See GIEDION, Sigfried: *Space, Time and Architecture*, ed. Harvard University Press, Cambridge 1941.
- 17– See GIEDION, Sigfried: op. cit.
- 18– For information on the project, see: "Project for the Diagonal," *Quaderns* no.183, 1989, pg. 25. See also *H/C: Housing and the City*, ed. Quaderns monografies, COAC, 1989, pp. 86-87.
- 19– From the design brief. See "Project for the Diagonal," op. cit.
- 20– For information on the project, see: *Quaderns* no. 211, 1996, pg. 81. See also: SERRA /

- VIVES/ CARTAGENA & BRU: *La Mar Bella*, op. cit. and GAUSA, Manuel: *Housing*, op. cit.
- 21– "The very size that the city is acquiring, the presence of the two skyscrapers of Nova Içària, the project planned by the Kepro group, all consolidate a certain scale of response on the part of the city to the seafront. The project sets out two superposed sequences: one of aligned buildings and a second one of high buildings."
See the design brief in *Quaderns* no. 211, op. cit.
- 22– From the design brief. Ibid.
- 23– See EUROPAN IV: *Construire la ville sur la ville*, ed. EUROPAN, Paris 1997, pp. 112-113.
- 24– For information on the project, see: "Euralille - Housing," *Quaderns* no. 222, 1999, pg. 143.
- 25– From the design brief. *Quaderns* no. 222, op. cit.
- 26– See a description of Wewerka's proposals in *Casabella* no. 306, 1965, pg. 50.
- 27– See Steven HOLL: *Edge of a City*, Pamphlet Architecture no. 13, ed. Princeton Architectural Press, New York 1991.
See also a summary in *Quaderns* no. 197, 1992-93, pg. 79.
- 28– See ITO, Toyo: *Le Rideau du XXI siècle*, col. Ecrits, ed. IFA, Paris 1991.
- 29– For a concise summary of the work of Willem Jan Neutelings, see *El Croquis* no. 94, 1999. See also the monograph *Willem Jan Neutelings Architect*, ed. 010 Publishers, Rotterdam, 1991.
- 30– See the multiple variations of the model in *El Croquis* no. 94, 1999, pgs. 82, 98, 90.
- 31– For information on the project, see: *El Croquis* no. 94, 1999, pg. 90 and *Quaderns* no. 223, 1999.
- 32– Both projects were submitted to the EUROPAN II competition.
See *Habiter la ville*, ed. EUROPAN, Paris 1991, pp. 86-87 and 162-163. See also *Quaderns* no. 211 (1996).
- 33– From the design brief. See EUROPAN II: *Habiter la ville*, op. cit pp. 86-87.
- 34– See *Quaderns* no. 211 (Housing), pp. 68-69. See also GAUSA, Manuel: *Housing*, op. cit, pp. 72-73.
- 35– See SORIANO, Federico and VALOR, Jaume: "Soriano, valor!" *Quaderns* no. 219, pg. 71.
- 36– From the design brief: *Quaderns* no. 219, op. cit., pp. 74-75.
- 37– *Quaderns* no. 219 op.cit. pg. 70.
- 38– In the words of Juan A. CORTES. See "Estrategias formales de la arquitectura reciente," lecture given in the context of the seminar: "Trayectorias de la arquitectura contemporánea: los últimos 10 años," Valladolid (January 10-15, 2000).
- 39– For information on both projects see Phylogenesis. FOA's Ark: Foreign Office Architects, ed. Actar, Barcelona 2003 and VVAA: *The Metapolis Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2003.
- 40– See an outline of the topic in GAUSA, Manuel: *Housing: New Alternatives, New Systems*, ed. Actar, Barcelona 1998.
- 41– See SORIANO, Federico: "Artículos de hiperminimos 1 y 2," in *Circo* no. 4 (Injertos), 1997.
- 42– See TUÑÓN, E. and MORENO, L.: "Injertos: cuatro comentarios," in *Circo* no. 04, 1997.
- 43– See MERINO, Domingo: "Hybrids," in *The Berlage Papers* no. 23, 1997.
- 44– For an interesting approach to O.M.A.'s work from this period, see: ZAERA, Alejandro: "The Day After: A Conversation with Rem Koolhaas," *El Croquis* no. 79, 1996, pg. 19; see also by the same author "Notes for a Topographic Survey," *El Croquis* no. 53, 1992, pg. 32.
- 45– See: LUCAN, Jaques: *OMA-Rem Koolhaas*, ed. Electa Le Moniteur, Milan-Paris, 1990, pg. 98. See also *Quaderns* no. 175, 1987, pg. 114.
- 46– From the design brief. See *Quaderns* no. 175, op. cit.

47– For information on the project, see: *Quaderns* no. 223 (Loops), 1999, pg. 120.

48– For information on the project see a possible analysis in: GAUSA, Manuel: Mies van der Rohe. Award for European Architecture, ed. Butterworth & Co. (Publishers) Ltd, London 1990.

49– See CERVELLO, Marta: "Peter Celsing: Sergels Torg 1964-74," *Quaderns* no. 191 (Big Buildings) 1991, pg. 71-88. See also *Jano* no. 24, 1975, pg. 30.

50– See SHANNON, Kelly: "Re-Politizing the Metropolis: The Strategic Project Approach." Lecture given in the context of the "UIA-Barcelona 96" congress.

51– "To collage is to superimpose intentionally and make uncohesively simultaneous. 1. Method of representation: superimposing images. 2. Method of production: superimposing shots. 3. Method of design: superimposing program and events [...] [which] although they conserve the nuances of their source and origin, they also obtain an entirely new impact founded in their change of context."

See GAUSA, Manuel and SORIANO, Federico: "Collage" in *VVAA: The Metapolis Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2001.

52– See ZAERA, A.: "Steven Holl: Towards an Aesthetic of Reappearance," *Quaderns* no. 197, 1992-93, pg. 64.

53– Ibid.

54– For information on the project, see: *Quaderns* no. 213, 1996, pg. 87-91 and *El Croquis* no. 78, 1996. See also GAUSA, Manuel: *Housing*, op. cit., pg. 204-209.

55– Ibid.

56– See SCARPETTA, Guy: *L'impureté*, ed. Grosset, Paris 1985.

See also ILIESCU, Mihai: "Mélanges et impuretés" in *12 Notas*, no. 1, 1997, pg. 100.

54– See GAUSA, Manuel: "Comensalism" in *VVAA: The Metapolis Dictionary*, op. cit.

58– See *Quaderns* no. 211, 1996, pg. 82-87 and GAUSA, Manuel: *Housing*, op. cit. pg. 78.

59– Some have been published in GAUSA, Manuel: *Housing*, op. cit. pg. 78 and 211.

60– For information on these projects see GAUSA, Manuel: *Housing*, op. cit. pp. 134-139.

61– For information on the project, see: *Quaderns* no. 211, 1996, pp. 116-120.

62– From the design brief: *Quaderns* no. 211, op. cit., pg. 116.

63– See *Quaderns* no. 211, 1996, pg. 120-129 and *El Croquis* no. 94, 1999, pp. 30-38.

64– See the design brief in *Quaderns* no. 211, op. cit. pg. 122.

65– For detailed information on the project see "Edificio per abitazione: uffici e negozi in Via Campania a Roma," *L'Architettura* no. 122, year XI no 8, Dec. 1965, pp. 492-522.

See also BELLUZZI, Amadeo and CONFORTI, Claudia: *Guide al l'architettura moderna: Architettura a Italia 1994-84*, ed. Latera, Rome-Milan 1984.

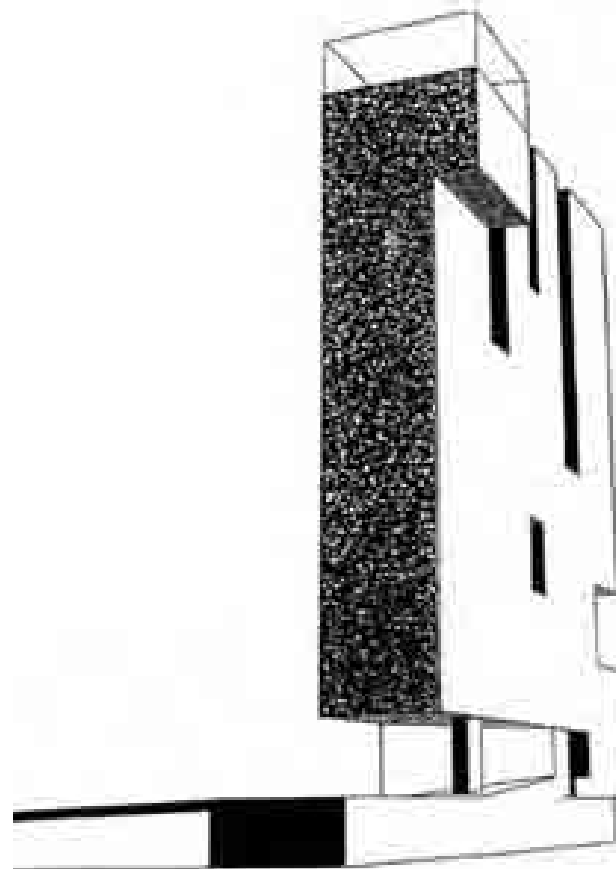
66– See PEDIO, Renato: "Architettura e comunicazione," *L'Architettura* no. 122, op. cit., pg. 492.

67– See SERRES, Michel: *Le contrat naturel*, ed. François Bourin, 1990.

68– For information on the project, see: *Quaderns* no. 217, 1997, pp. 6-19. See also GAUSA, Manuel: *Housing*, op. cit. pp. 220-23, *IN-EX* no. 01, 1999, and *El Croquis* no. 86, 1998.

69– For detailed information on the project see: *European IV: Construire la ville sur la ville*, ed. EUROPLAN, Paris 1997, pp. 194-195 and GAUSA, Manuel: *Housing*, op. cit. pg. 18.

70– See MORALES, José: "Adiós a la metáfora," in *V.V.A.A: Otra Mirada* ed. Gustavo Gili, Barcelona 2010.



8.72. MVRDV (Maas-De Vries-Van Rijs): Mixed megastructure, European II (Berlin, 1990).

9 MESHES (REFOLDS) KNITS AND KNOTS

Meshes-Meshworks as Weaving Circuits

I. Meshes (Refolds):

Flexible Meshes as Matrix Circuits

As we acknowledge the pioneering strategies that are in line with and show an affinity with the complex structures of the city and dynamic systems themselves, it is worth identifying as flexible mesh – nets and netting or webs and webbing – certain devices that would be conceived as virtual “circuits of movement(s)”: *matrix circuits*, whose “trajectories” (i.e., derived from the processes of spatial organization – and occupation – that define them) trace and score virtual “intertwining” and “interwoven” paths (woven, braided or knotted) related to an *infrastructural* agency – nets or knots – that is articulated or articulating.

We are talking about meshes, then, in an almost geodesic sense, as braided trajectories – and routes – spreading and running, in association with networked structures (cords or arteries) that are defined through weaving or “knits” and “knots” (like bows or ties), ultimately, reminding us of the inherent “braided”, “scored”, “guided”, “ruled” and/or “encircled” configuration of large territorial integration and connection infrastructures.

Certain properties of infrastructural meshes, and the natural meshworks associated with them, like internal or external “connexivity” and “connectivity”, flexibility or “nodality”, are especially relevant because they underlie the systemic base of all of the strategies that we refer to here: grooves, channels, roads, irrigation furrows, but also tessellations, branchings, skeins, tangles... These properties all reveal the meshed and infrastructural condition of these dispositions.

In all of them, we can identify a “dual” condition that situates them between tessellation geometries, on the one hand and



threading geometries, on the other: based on *tracks* and *furrows* (*weavings, knitting structures*), or *tangles* and *braids* (*knots*), which ultimately associates these geometries with the more oriented structures of latticework or with other more threaded structures, like *brocades*.¹

However, in both of them, we recognize (real or virtual) net structures as the configuration of interconnected elements based on matrices of movement and displacement.

This “matrix-like” or “reticular” – net-like – dimension is directly related to the infrastructural condition of the contemporary city. A new type of logic that is discontinuous and connective at the same time, which alludes to this threaded – and tessellated – orientation of flows and traffic, of cords and cordons, in relation to several net-like arrangements, which are simultaneous and/or overlapping, woven and intertwined at the same time.²

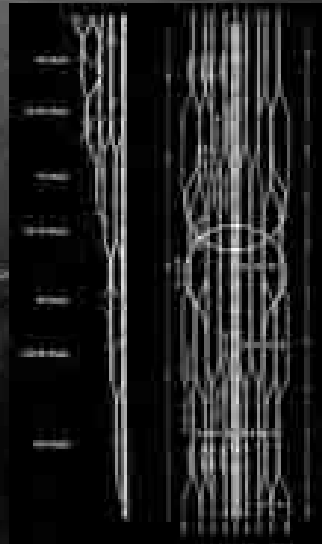
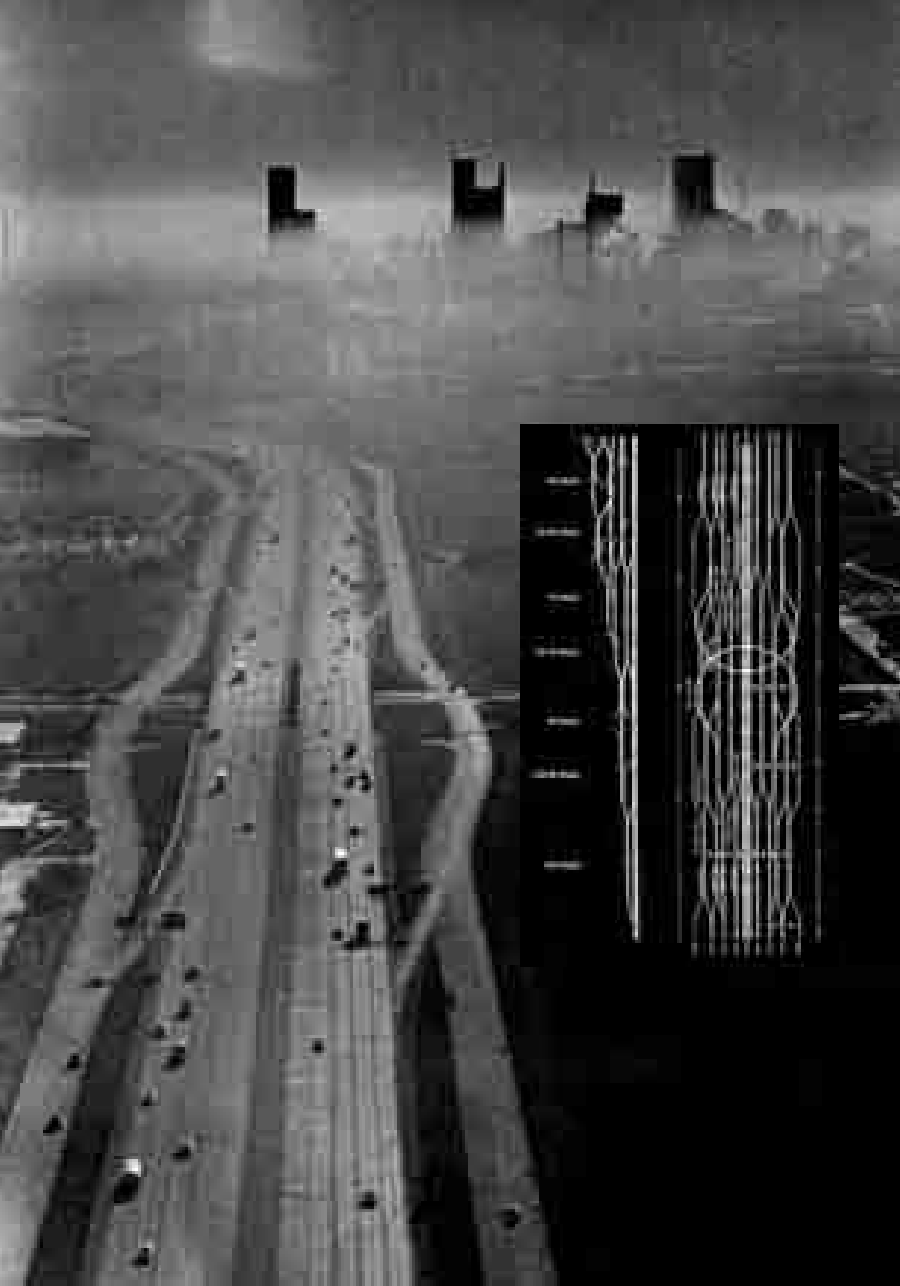
The very idea of movement in contemporary cities is derived from this – vocationally efficient – combination of various channels of communication and transportation, designed primarily as circuits to orient flows, where the formal design of the infrastructural elements refers to the effective definition of progressively “complex” matrixes and/of links, which are defined using basic parameters of connectivity.³

What is interesting about such devices/dispositifs is their infrastructural nature, as opposed to a purely structural one. They aren't monolithic *mega-structures* – rigid and absolute frames, but rather flexible and/or modifiable arrangements, which are open to multiple and variable particularities in their evolution (according to local demands concerning context or use).⁴

What matters, more than structure itself, is the “structure of those structures” (the infrastructure), which again reveals the conceptual proximity between weavings and circuits, referring back to the very definition of an “operative matrix” that is capable of fostering a *meshed relationship* among different events, but also an implicit disposition towards deformation, distortion or

9.2. OMA - Rem Koolhaas: Eurolille (1990-1994). Overlapping of meshes and flows.

9.3. Weaving-“trema” (B. MANDELBROT: *Fractals: Form, Chance and Dimension*, ed. W.H. Freeman & Company, London 1977).



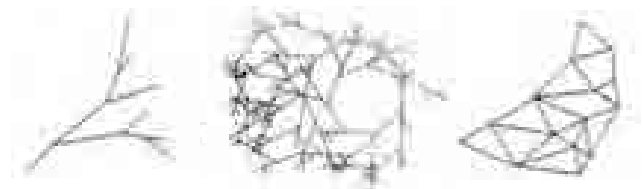
modification.⁵ It is a “spatial” interpretation of the concept of a mesh, which, in contrast with the old notions of “linear infrastructure” (outline or axis) or “planar infrastructure” (subdivision or grid), is proposed as a circuit of and in networks, which has the potential to ensure possible “arrangements” based on a wealth of flexible connections and “three-dimensional intertwining”.

In these experiments we find meshed dispositifs proposed as *weavings* – or *(inter)weavings*, as *directed arrangements*, or as bows – or lassoes, interconnected and braided links.

- *Meshes* then, as *weaving knits (net-works or mesh-works*, in the sense of geometric *inter-weavings* or lattices) rendered as meshed “guidelines”, “tracks” or “lanes” of movement, i.e., as essentially directed *arrangements*.
- Or *Meshes* as *braided knots (bows and ties like links)*, but also like meshed or interlaced *loops* that “coil”.

While the first group – weaving or interweaving – explores the system’s capabilities to act as a matrix, as a support or a framework, the second group – knots, like bows or links – emphasizes its path condition, as a trajectory of knots or meshes.

Weaving mainly responds to a desire for fostering organizing matrixes, which multiply spatial combinations. Knots or bows favor different links (accords) between scenarios, programs and mobility.



9.4. Arteries and arterioles of mobility.

Elliot Erwitt, photographer: Dallas, Texas, USA 1963 (Magnum Photos).

9.5. MVRDV. Diagram, according to velocities on a skein of roads (in MVRDV: “Living along the highway,” *Quaderns* no. 218, 1997).

9.6. Linear branching and networked branching (archive).



II. Knits. Weavings-Interweavings as Guideline Circuits

The definition of a woven and flexible support matrix characterizes the *dispositifs* defined as virtual *knitting weavings* (or *interweavings*). They are structures with a dynamic evolution – circuits of movement(s), which appear as directed arrangements: organizing and generative screens that are capable of promoting varying configurations based on both the optimization and distortion of their tangled definition (enclosed and oriented).⁶ Knits-devices based on “weaving” and “interweaving”, associated with meshed spatial structures, in their preferred state as frameworks: “braided” and “interwoven” circuits of movement. Earlier we mentioned the dual condition of the kind of networks/ meshworks – or matrix circuits – we are discussing here: on the one hand, they are tessellated or tangled geometries (*weaving and interweaving lattices*) and, on the other, structures based on “outlines” or “guidelines” (“inter-weavings”).

In both of these features, we observe a net-like quality, associated with the irregular (*pseudo-natural*) figures of a latticework or a checkerboard, as possible “scoring” and “path” structures. They are spatial trajectories designed to “guide”, to “direct” or, more aptly, to “conduct” an action that is both virtually determined and open at the same time, precisely because it is “*en-meshed*”.⁷ In many *interwoven* distributions, we recognize configurations that are produced by guiding “rope” or “belt” structures (as virtual trails for development), but we also see combined movements of a discontinuous iteration of full and void, solid and hollow, occupation and separation, action and omission. In different aspects of the word “weaving” we find the double connotation of being “guided” and “hollowed out”: There is the idea of a warp, i.e., a fibrous – cordoned – mesh with a threaded and discontinuous evolution. And the idea of a *latticework* or *criss-crossed mesh*, i.e., a hollow mesh.⁸

9.7. Road network (archive).

9.8. Structure of furrows and fissures (J. BRIGGS: *Fractals: The Patterns of Chaos*, ed. Thames & Hudson Ltd., London 1992).

Warps and *criss-crossed meshes* form possible spatial weavings. In a formal sense, we might call them distributive interweavings produced by successive iterations of occupation and separation (or voids), generated under the flexible conditions of connection, steering and intertwining of variable densities, which are not dissimilar to the poly-hierarchical models of mesh.

In most of the examples we take into consideration, the matrix-like topology, of mesh or netting, results in structures based on guidelines, conceived as virtual irregular checkerboards for movement. These game boards, which are braided and/or intertwining, create virtual, discontinuous, structures of latticework, which refer back to the properties of weaving and interweaving.

They are – more or less dense and complex – *cordoned* structures, aimed at articulating asymmetric and asymptotic developments, defined by (full) “fertile subdivisions” and (empty) “expectant subdivisions”, characterized by their irregular distribution and called upon to break up the behaviorist homogeneity of traditional regulatory outlines, as well as the idea of fabric as a compact and perceptively continuous weaving.⁹ (*Inter*)weaving structures (with recognizable and/or deformed geometries), which have the potential to overcome the rigid gridded order and foster “fittings” among multilayered paths – complex and flexible at the same time, which refers to the definition of large-scale infrastructural networks of territorial articulation, *traces rather than paths*.

The “furrowed” and “matrix-like” dimension of meshes and weaving that we are interested in analyzing here refers back to the infrastructural nature of contemporary cities.

It calls up the dynamic tessellation between meshed encasements, associated with channeling and traffic (furrows, trails, tracks or lanes, for moving, travelling, touring), conceived as virtual circuits which orient flow, and which emerge as interwoven – and interconnected – sets associated with movements of displacement and gliding, which are combined, articulated and syncopated, as they create dynamic distributive non-linear systems.

In their most basic expression, these weavings are proposed as rails (or tracks) of flow (of variable development and motion), which tend to slide events (occupation, separation and displacement) in syncopation along intertwined or crisscrossed grooves (*strips, rails or checkerboards*), conceived as flexible tracks (or cords) for *concentration-expansion (occupation-separation)* as opposed to rigid zoning.

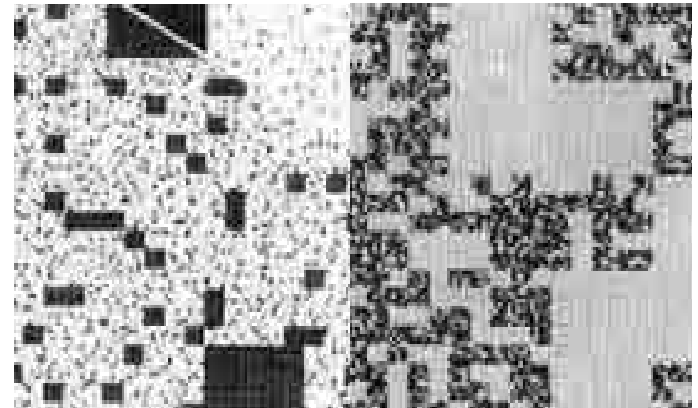
In this sense, delving further into the structural concept of weaving or interweaving and the discontinuous – and repetitive – nature of their own internal movements, leads to the development of non-linear sequences (of reading and of occupation) associated with the expressed trajectories that are in “constant suspense” between the predictable (what is programmed, guided and systematic) and the unpredictable (the isolated, discontinuous and contingent): sequences that are generated based on the design of directional tensions – tracks, rails and matrices, guidelines – in space (landscape, or tales in the case of narrative structures), but also based on overlapping cadences and intermittences, associated with the articulation of variable – *space-time* – rhythms between movements and events; braided rhythms between lines – or surfaces – of travel, points of occupation and empty spaces – or basic *in-between* voids – in the structures we are concerned with here, both due to their strategic disposition and their inter-cadent nature.



9.9. Frederick Kiesler. Section of netting, 1933. (*L'Architecture d'aujourd'hui*).

We are highlighting weaving or interweaving structures conceived as virtual spatial devices: guides, guidelines – or guidances – like complex musical scores, which are flexible and deformable, intended to structure – or weave – space – based on alternating (variable and discontinuous) sequences, rather than strict (repeating) series.

Dispositions where the anonymous, almost abstract, quality of a possible rhythm between discontinuous movements and pauses, between circuits and events, combines with their capacity to house unexpected tensions and distortions intended to subvert the system itself: counter-rhythms created by deformations or disturbances taking place at the heart of the system itself or dissonances produced by intruding, independent, elements, with the potential to subvert the original code, demonstrating its flexible condition of infrastructural adaptation.



Different examples of developments based on iterations of "empty/full", "mass/furrow".

9.10. Pierre Cordier: "Topogramme d'une grande ville," 1992 (in VV.AA: *Visions urbaines*, ed. CCCB-Electa, Barcelona).

9.11. Different examples of irregular *trema* structures. (B. MANDELBROT: *The Fractal Geometry of Nature*, ed. W.H. Freeman and Company, New York 1997).



III. Basic Tracks (Frameworks Using Bands and Barcodes)

Frameworks based on *bands* are the most elemental level of this kind of *woven* devices based on the variable diatonic combination between predictability (repetition) and surprise (disturbance): a type of directed agency, both schematic and flexible, which is capable of weaving events, changing itself and accommodating external circumstances all at the same time. The open – non-exact or repetitive – combination of different bands and/or tracks – thick and narrow, full and empty, homogeneous and heterogeneous, regular and irregular, straight or curved – promotes the idea of a flexible code, where order is derived from this possible shared directionality rather than from a strict repetition of events: generative sequences, conceived as directional tensions, but also as cadent (guided) frequencies, which refer back to an intermittent and variable rhythm – in space and time – between different actions. An elemental rhythm for local variation rather than global repetition.

The regulatory dynamics of occupation, distribution and/or variable configuration, associated with these frameworks, refer to sets of movements where full and empty plots (concentrations and expansions) slide among one another on bands of rails or tracks, which are contiguous and noticeably parallel – like in virtual “barcodes” that are flexible and modifiable – the logic of which can be summed up in variable operations of permutation between “full” (A) following “empty”: $A=xB$.



Two examples of guidelines of development and distortion.

9.12. Gigantes-Zenghelis: “The pleasures of suburban life” (in *El Croquis* no.67, 1994).

9.13. Kazuyo Sejima: Zig-zag typologies. Metropolitan Housing Studio, 1996.

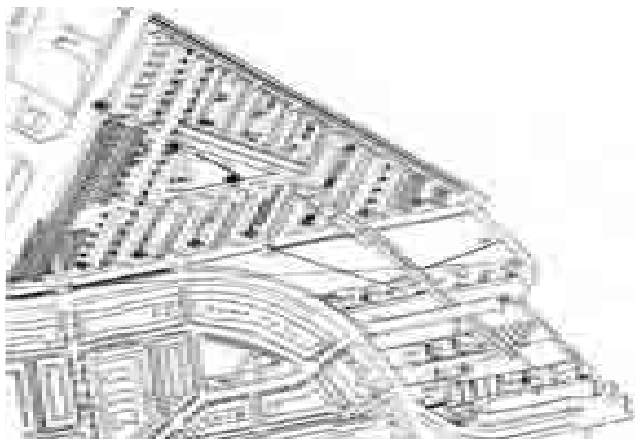
Or in algorithmic sequences of “action/omission” feedback,¹⁰ highlighting the implicit ambivalence in these *interweavings* between *sequence*, *series* or *serialization* (whereas the term *series* is defined as a set of related events which take place successively, relative to one another, by derivation, repetition and reproduction of the same transmitted information; *sequence* is defined as a discontinuous – non-linear – succession of individual events that are not necessarily formally linked, but which are infrastructurally *woven* together, according to varying, more or less syncopated, rhythms, intervals and frequencies.) O.M.A.’s emblematic design for the **IJ-plein site (Amsterdam, 1988)** – an almost literal “built barcode”, with the occasional discords spurred by light distortion movements and the presence of foreign elements that get infiltrated in the system – is one of the first examples that aims to explore the implicit potential of the diatonic effect that takes place between the predictability (repetition) and shock (surprise) that are generated from the standpoint of a programmed weave, as diagrammatic as it is flexible, and that is capable of pacing events, changing itself and hosting, at the same time, external contingencies.¹¹

The **ZIG-ZAG Typologies** designed by **Kazuyo Sejima** in his **Metropolitan Housing Studies (1955–1996)**¹² (a series of built bars with small carbuncles conceived as strange eruptions or branchings with individual growth patterns, within a basic order achieved using multiple spines in movement) are a more radical example – in that they are largely conceptual, but also due to the multiple internal variations they promote – a basic course of action that serves as the framework for several subsequent projects (for example, some of the work by **Gigantes-Zenghelis** or **Toyo Ito**) based on the possibility of creating effective “evolving guidelines” using parallel bands, which are often too overtly dependent on the “built order” (**Toyo Ito’s Urban renewal project for Antwerp, 1991**)¹³ raises the possibility of a depressed park woven by a variable sequence of parallel buildings, which, like crossing bridges supported by pilotis,

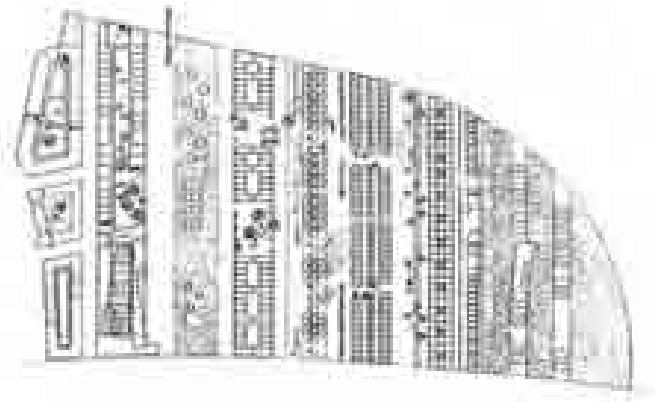
traverse the space, including them within a basic stripe program of a “full-empty” type: the proposal hosts, in a versatile way, a wide range of rhythmic programs and mixed activities with specific treatments).

The “open” – “non-accurate” or repetitive – combination between “empty” and “built” bands furthers the concept of a flexible code, where the order is focused more on directionality than repetition. We mentioned before how the use of the concept of bands – as a dynamic and “indeterminate” track, rather than as a strict *zoning* – provides a flexible instrument capable of infiltrating fragments and articulating fragmentation at the same time.





9.15. O.M.A-Rem Koolhaas: Mixed-use complex for the IJ-Plein site (Amsterdam, 1988).



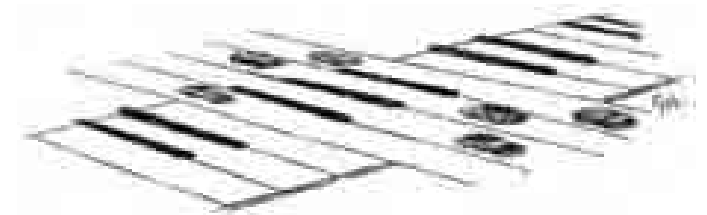
9.16. Toyo Ito: Urban renewal project (Antwerp, 1992).



In the designs that we have been analyzing, built volumes play the role of the guidebar system however, within the concept of *(inter)weaving* – or *flexible matrix circuit* – that we are highlighting, there is the underlying condition of a complex guide that has the potential to foster multiple organizational processes based on “occupation and/through displacement”, which are both indeterminate and directed at the same time. It is, therefore, a “distributive strategy”, essentially heterogeneous in its own configurative logic, associated with an implicit weaving infrastructure rather than a plot understood as a built layout: a free and engineered deployment of movements, and a combination of possible paths and trajectories that are diversified and channeled at the same time.

A number of formulations moved in this direction, which could be exemplified – because of its conceptual clarity – by **Adriaan Geuze & West 8**'s project for the **Borneo-Sporenburg Area (Amsterdam, 1993–96)**, a structure designed on the basis of five parallel rails intended to host an endless succession of built blocks, which responded paradigmatically to this type of dynamic trajectory, comparable to a “circuit of combinatorial movements”.¹⁴

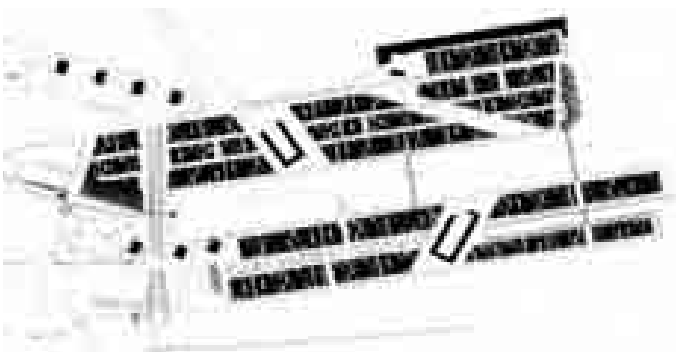
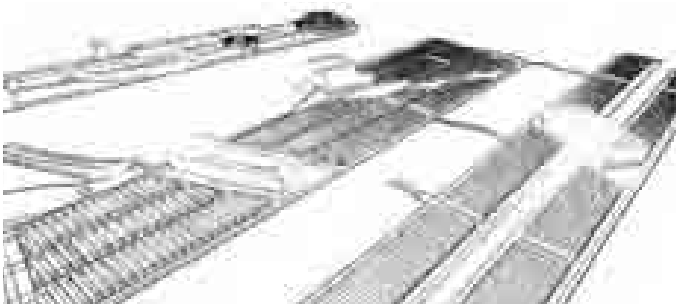
The project (a sea of residential units facing the North Sea, which is broken into three big building structures – like intruding



The “band schemes” are the most basic level of the guided structure or *(inter)weaving dispositif*, which is associated with movements of occupation based on “shifting/sliding”.

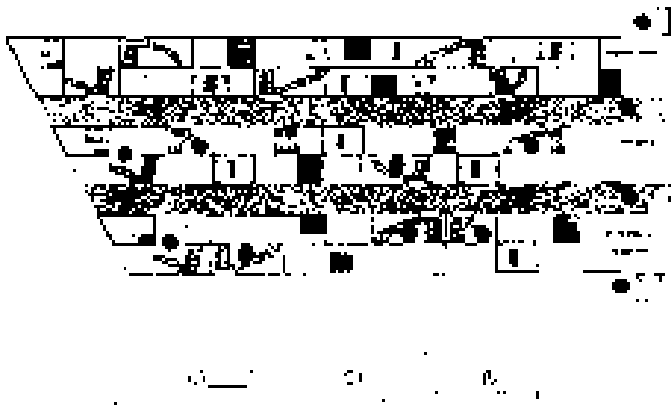
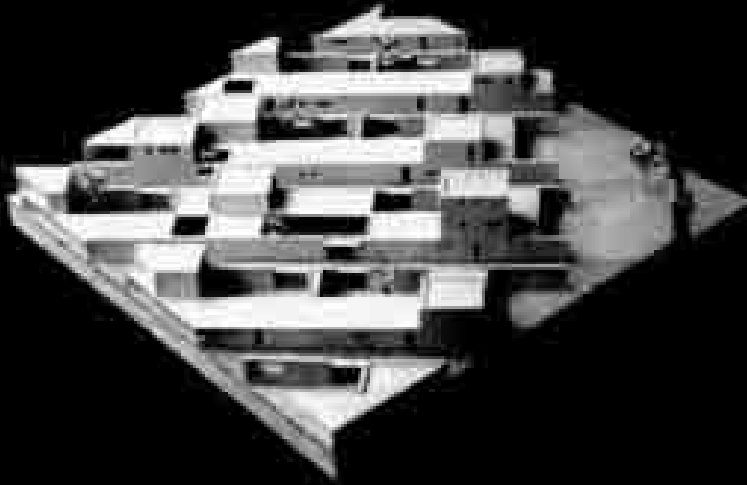
9.17. New York. Brooklyn Bridge. During the blackout of August 16, 2003.

9.18. Krahn: “¿Por qué escucho a Bach?” 2002.



9.19. Adriaan Geuze & West 8: Borneo Sporenburg (Amsterdam, 1993-1996).
A syncopate framework of parallel rails "full-void", "concentration-dilatation".

"ships" – that interrupt the basic sequence of repetition and relates the whole to other scales) responds to the basic premises of a large real estate operation intended to accommodate 2,500 units with a density of 100 units per ha. and the predominance of a single-family model. Here, the dispositif articulates also a basic sequence of variation and repetition of a series of "empty-full" bands repeated on all scales (from the level of the urban intervention to the building modules themselves), in a play of recursiveness and scalar self-similarity which – like in a contemporary *Kasbah*¹⁵ – fosters the development of a global "texture" and, at the same time, fractalizes its definition into multiple particular cases, maximizing its open and individualized configuration. Here, the rails do not plot strict zonings but dynamic encasements that are capable of articulating "stops and starts", exchanges, variations and internal combinations, as well as "crossings" with other overlapping designs and intruding elements that are foreign to the system, which, by its own flexible and also precise configuration, helps organize, through successive waves of "occupation-separation-expansion" (shifting and sliding) the inhabited cell itself and the growing processes related to it, alternating the urban and domestic environments, the private and the public; combining multiple situations based on the different dispositions derived from the sliding elements (interior spaces and exterior spaces), from the applied incisions (cuts, tears, inflections...), and even from the "random" appearance of independent elements (absorbed volumes or incorporated autonomous forms). The project by **De Clerq-Van der Ploeg-Weijnen-Willems** submitted to European IV in **Hertogenbosch (1992)**¹⁶ proposes a linear structure with a non-linear evolution: a basic framework (comparable to that of a rake) that is defined using alternating cadences of "full-empty" chains, both in terms of urban organization and in the development of the building itself, which creates an effect of a-scalar self-similarity between the whole and its parts.



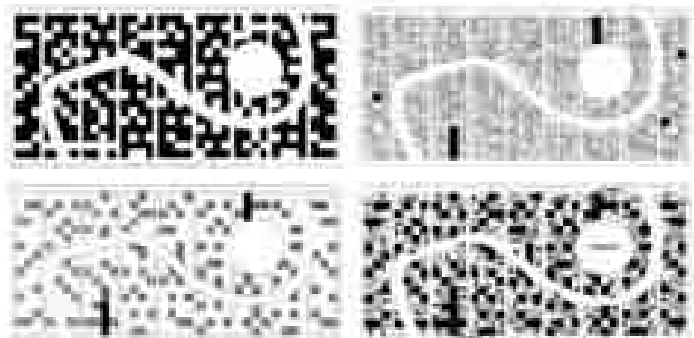
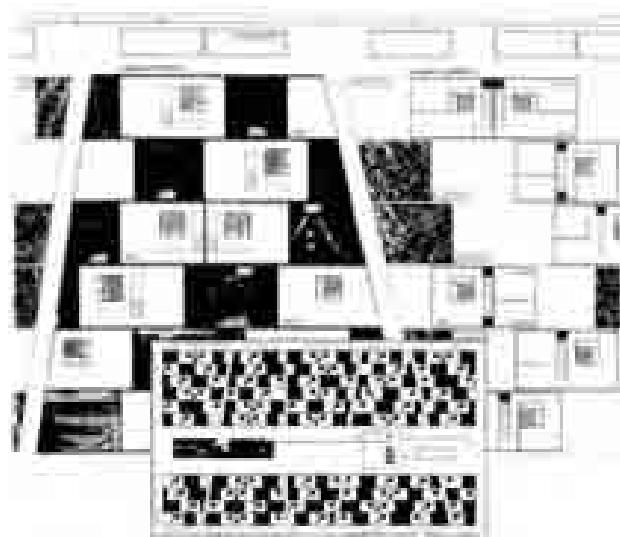
This unique “spatial domino” includes four different types of dwellings with courtyards, defined by a system of parallel bands that divides the units two by two and “channels” the various possible combinations and their eventual growth.

The disposition weaves the plot based on an abstract framework, which can be adapted to other urban locations, but, also to the specific demands of the site, since its guidelines are focused on the large nearby lake.

These guidelines draw longitudinal kind of rails on which diverse alternating interior subdivisions generated from sliding movements, lateral and longitudinal (staggered) are set, combining the appearance of living areas with that of interspersed landscape voids. They are free movements generated also in relation to height, issuing the variable – in size and “time” – emergence of vertical eruptions. They become individualized bodies that host ancillary rooms and that end up defining a dynamic – almost random – profile on a continuous plotting base, showing, in the proposal, the presence of incorporated *sprouting and twinning* mechanisms.

Here, despite the simplicity of the framework – parallel rails in movement – we recognize the presence of a process based on trajectories that are initially more complex and dynamic than the barcodes we saw before: a dispositif with the potential to promote “sequential chaining combinations” based on a specific open mesh of possibilities; rails on which to interchange a variety of options-concretions of affirmation (occupation) and negation or omission (non-occupation) and the associated chains of events.

These trajectories are not dissimilar to the indeterminate ones that were described by the mathematician Peter Saunders by making reference to non-linear systems themselves.¹⁷



9.21. Roagna-Ehrensperger: Residential complex, European III (Yverdon, 1992).

9.22. Kazuyo SEJIMA. Low-rise typologies. Metropolitan Housing Studio, 1996.

Plans and variations (from top to bottom: diagram, roof plan, basic plan and ground floor).

“A system on a stable trajectory is more like a bobsleigh travelling down a run. [...]”

To complete the picture, you have to imagine that there are typically several runs close together, so that if the bob hurtles out of one it may well land in another and finish its descent at a different end point.

You have also to imagine that there are also forks, where one run splits into two and the driver can choose which branch to take. [...] Much of what happens depends on the properties of the system itself (the layout of the runs, in the metaphor) and not on the external forces.”

The **Low-Level Typology** developed by **Kazuyo Sejima** for the above mentioned **Metropolitan Housing Studies**¹⁸ – a network conceived on the basis of nine parallel strips within which residential units and private garden/courtyards are alternatively arranged into multiple combinatorial subtypes that are trimmed, at the same time, by the random placement of an interior street and of a relational circular space, which distort the apparent regularity of the whole by introducing a more informal design – suggests an approach similar to the preceding one, which also ties in with the proposal submitted to European III by the team **Roagna-Ehrensperger-Cellini (Yverdon, 1992)**.¹⁹

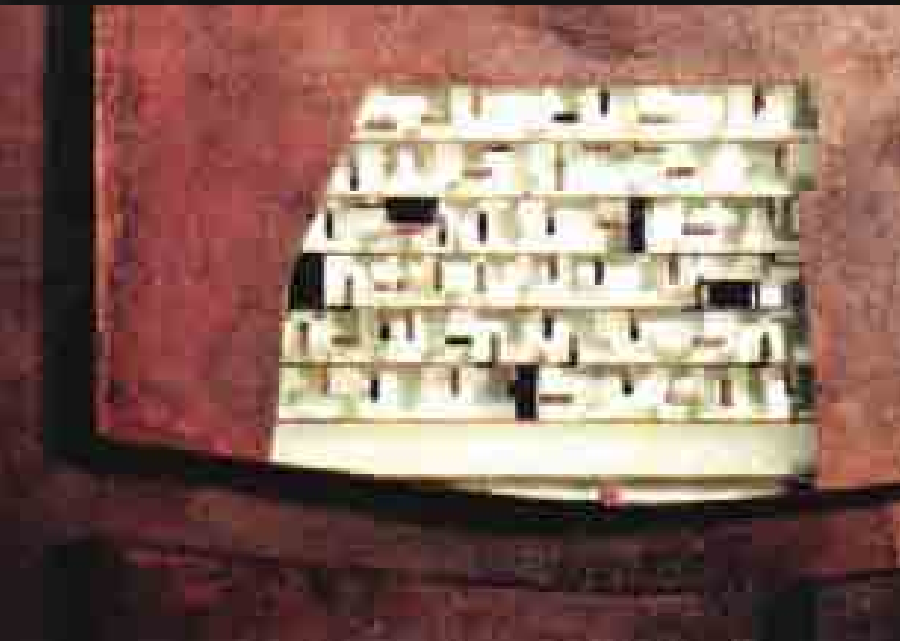
The first presents a solid conceptual base by being presented as a tapestry of articulated movements, which is “deposited” on the structural plotting base of an open floor plan, which will be colonized by mixture of programs (shops, offices, parking lots, etc.). On top of this “indifferent” base, the proposal develops a warp of apartments and workshops of different sizes – on two non-homogeneous levels – configured by a series of parallel rails on which the living spaces are defined according to the open and variable – staggered – position of the crossing subdivisions, thus creating a basic rhythm of open and occupied spaces with eventual increases in height.

Contrasting these images allow us to compare two examples of irregular (inter) weavings intended to generate diversity and variation based on a matrix of elemental geometry.

9.23. Lacoste-Robain: Residential complex, European II (Dunkerque, 1990).
Aerial view and floor plan of the model (in *European II*, Paris 1991).



9.24. Steven Holl: Hotel and residential complex (Guadalajara, Mexico, 1998).
Aerial view and floor plan of the model (in Steven Holl 1996/99, *El Croquis* no. 93, 1996).



The houses extend over two levels above that virtual plinth or “infrastructural” support platform, intended for mixed-uses (leisure, small businesses and shops, as well as services and offices on the ground floor, and parking lots on the first floor).

Arranged in sequential strips, the designated/living spaces set up alternative rhythms “building-courtyard” that will be disrupted in the center by the appearance of a thicker strip destined to become a public space, and civic and sport facilities. Within these strips, the layout of the houses becomes the result of a recursive intermittency of an “empty-full” type, conceived from the flexible disposition of a hard core of services around which the living space is configured (on one or two levels).

Here, the spatial system allows also, in an indeterminate way, the combination of proper movements and incisions (and intrusions) derived from infiltrations and/or cuts foreign to itself.

It is worth comparing this tendency to bring together “weave” and “landscape” with the proposals of **Lacoste-Robain** for **Dunkерque (European III, 1990)**²⁰ and specially that of **Steven Holl** for **Housing and Hotel in Guadalajara (México, 1998)**,²¹ both understood more as matrix-like (inter)weavings than as strictly programmed projects.

This last proposal – a mixed complex of 200 houses and 150 room hotel – combines, as it does the one before, two “serialized” spatial devices of different nature: an “aerial” series in relation to the scale of the horizon and the territory, and a “terrestrial” series that breaks the ground into an elemental and rich network at the same time.

Both devices relate to the different variations of a nuclear trajectory in the shape of an “L”, which generates, on the one hand, a whole series of “end trimmings” and “sproutings” conceived as broken towers; and, on the other, defines a typology of houses with courtyards, threaded into an open checkerboard with overlapped sections also in the shape of an “L” that allow each apartment or room to face either north or south.

These series (aerial and terrestrial) form a mixed mechanism – a programming hybrid – that shares, however, the same inducing criteria.

In the terrestrial network, the whole set of threaded “Ls” show different degrees of granulometry with solid and hollow spaces, steered courtyards and interstitial emptiness. In and between them, like broken curves, the perimeters of three open and intermediate spaces appear, segmenting and distorting, in an irregular way, the apparent serialization of the whole and endow it, at the same time, with a new code of definition.

The intrusion of this apparently random – or even better, incidental – layout, as well as the dual condition of *emergence* and *furrow*, lends the whole an ambiguous character, between stern and informal. Like a puzzle with two levels of interpretation and solution.

The very reference to an ambivalent puzzle, between predictable and surprising, brings us back to the concept of a spatial – and combinatory – interweaving, understood as a possible three-dimensional and irregular “checkerboard” of permutations and variations, developed across different layers and overlapping strata.

The paradigmatic project by **O.M.A.** for **Fukoaka (1993)**, an apparently rigid grid manifesting itself, on the outside, in a fluid manner thanks to the dynamic movement of the sectional view and the strategic trimming of the perimeter edges, also refers back to this idea of flexible spatial threading implicit in such cases.²²

The whole is configured as a dense inhabited tapestry defined by the alternation of three functional accommodation sashes and three thinner “sub-sashes” for ventilation and circulation.

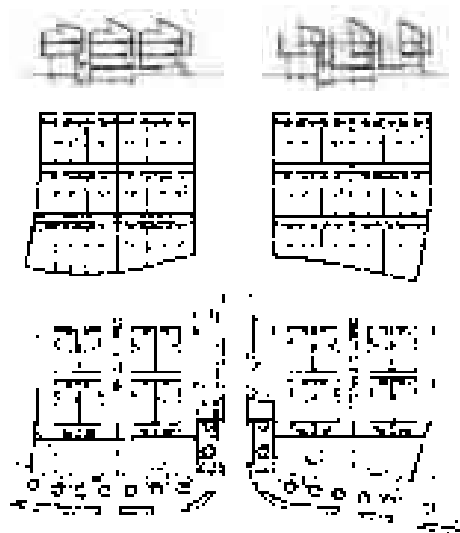
The respective cross-wise subdivisions produced by this pattern define the different apartments proposed, either in an “L” or a “U” shape, around a landscaped vertical central courtyard, thus articulating 24 “triplexes” grouped into two compact blocks.

Despite the apparent rigidity of the initial reticular scheme, its own configuration as a “flexible checkerboard” favors the emergence of multiple subtypes produced by the varying changes of position of the “lateral” subdivisions and of the central courtyard itself.

On the floor plan, the open treatment of the perimeter increases the elastic – casual and accidental – character of the whole as manifested, in a pragmatic way, by the open “sprouting” of spaces “under-cover”.

“The exterior of the blocks is marked by closed “cyclopic” walls that serve as socles to Isozaki’s towers. [...] On the third floor the built up tensions explode in a single extroverted space, which is connected to outside space, to the view, to the sky.”

This dual status, half way between cyclopean and the vibrational, refers to the dialogue between regularity and irregularity, serialization and variation, determination and indetermination – a global system and an individual episode, which tends to define the whole and tends to combine itself with a varied range of dual “contrasts” (confined/diaphanous, intimate/open, public/private, tall/short, coarse/refined, opaque/clear, concrete/abstract, etc.) that gives the project a high level of spatial ambiguity and complexity.²³



9.25.O.M.A-Rem Koolhaas: Mixed residential complex (Fukuoka, 1993). The weaving, as a matrix of permutation, encourages the appearance of multiple subtypes. Its flexible nature is evidenced by the irregular definition of the perimeters and the gill-like offshoots of the roofs.

V. Extruded Pixels: Overlapping Weavings

In O.M.A.'s proposal for Fukuoka, we can guess, in a paradigmatic way, that the rail scheme is already surpassed by addressing another more complex type of combination made out of networks, threadings and inter-winnings conceived as virtual multilayered meshes: threaded nets as possible "spatial inter-ligatures", versatile and hybrid at the same time.

MVRDV's proposal for the **Residential Complex at Delft (1996)** can be interpreted, in this sense, as another possible type of "spatial tessellation" of variable configuration, inserted into the urban fabric ("difference as a parameter" is the subject of the proposal).²⁴

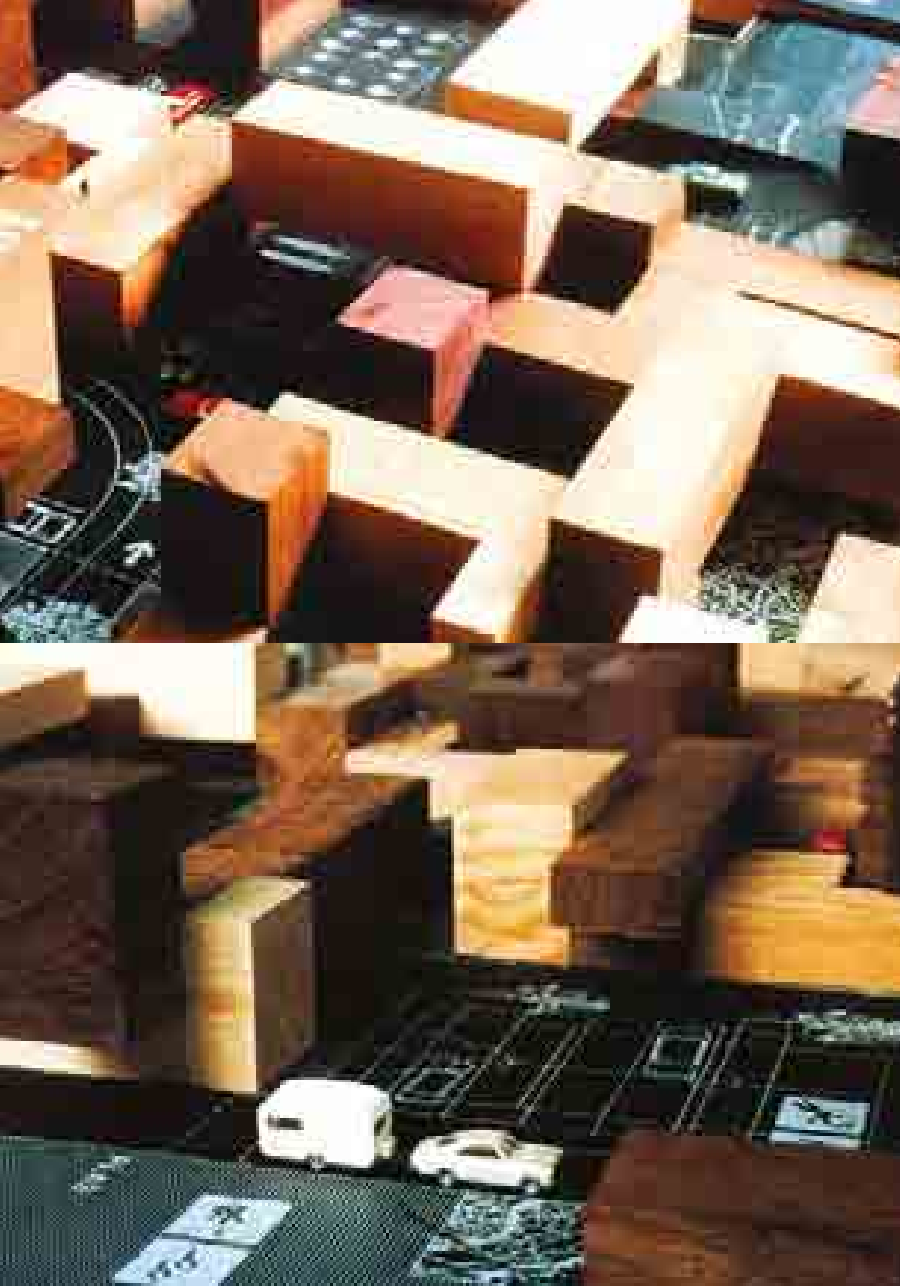
The whole set is intended as an "operative" network as abstract as it is singular (and singled out), a generic *dispositif*, generating individual and potentially "unique" situations.

The concerning area was planned from the onset around several basic "strips" that were defined by the dimensions of the parking modules, the only "fixed" variable in the system.

On top of those strips ("strict" in their dimensions), the architects overlapped other possible nettings in relation to the agreed percentages that came from co-existing programs (residential and mixed).

The "crash" – or intertwining – of those nets – "from the smartest to the most absurd" – changes the area into a tridimensional maze of full and empty spaces in which the unexpected rules. The expected high density in this sector is relieved by the provision of raised gardens, as well as by the presence of several interwoven – empty or hollow – courtyards, and, in the public space, by the inclusion of an artificial geography aimed to accommodate the supermarket and the sports center, introducing an "intruding" topographic movement of deformation, an inserted "site" in the "netting" of the whole itself.

9.26. MVRDV: Residential complex Hoornse Kwadrant (Delft, 1996).
General and partial views of the model.



The proposal resembles a *pixelated three-dimensional* matrix which connects grooves and holes, but also strategies of *sprouting* and *twinning*, atop an open circuit – an *(inter)weaving*; like in a huge volumetric *Tetrix*, associated with the basic rules of a combinatory game based on movements that are “woven”, “interchanged”, “slid”, “displaced”, “overlapped” and eventually “distorted”.

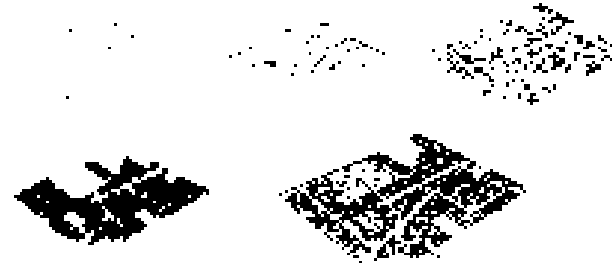
This line of research, based on a possible poly-tessellated and multilayered extrusion of the old notion of the checkerboard is also evident in the **NL Architects' Flat City project**²⁵ (**Leidsche Rijn, 1997**), which is an adaptable mechanism design for the future city of Leidsche Rijn, a new expansion on the green center of the Dutch conurbation of Randstad, currently inhabited by a hundred thousand people. The proposal, an intention to explore new residential patterns in the wake of the exponential increase of single-family housing demands that are expected to take place in the country (more than a million before 2010), is also presented as a possible answer to a conventional occupation of the territory based on dichotomic models “construction and/or territory”. However, the mechanism is planned to work like an “inhabited landscape” and a “woven horizon” at the same time (“an open horizon”) that shifts the level of infrastructural paths to the 3.20 meter mark (“erasing the built volumes from the perceptual horizon”).

A traffic stripe “twisted” around a dam made out from dredged sand (coming from the construction of a nearby lake as envisaged in the Master Plan) structures the main access road to the 22 sites planned, which are organized perpendicularly to that tangled infrastructure, turning it then into the articulating axis of the proposal. We are talking about an axis that folds and twists itself on the land (paradoxically reinterpreting here the traditional idea of the linear “city, extended and folded over itself all along that twisted infrastructure), generating a “*twisted field of landscapes*” that recasts the old axial mode compacting it in a more tightly and balled-up way, and referencing a meshed disposition like an integrated motion circuit.

The houses, mostly single-floor, are equipped with accessible green roofs, creating, between the grounds and those coverings, that unusual “overlapping” – and imbrication – of landscapes. This produces an ambiguous vibration over the horizon, which is enhanced by the placement of four fifths of the building under that access ground – and virtual horizon. Here, the attention given to cars, an important part of suburban life and of the project itself, is used, in effect, to convert those roofs into an access space, and into parking and a front yard at the same time.

By exploiting that individual and global quality of a “fractalized” – plant and mineral – green geometry, generated from a perverted – distorted, folded and meshed – linear scheme, capable of creating an indeterminate distribution of “pixels” of various definitions around that infrastructure, the project allows us to imagine multiple situations. The connection between a pixelated weave, an abstract one, a cultivated net, a “natural” and a residential netting – one of the main features of the whole project – will be transposed later to other residential projects of similar characteristics carried on by the same team.

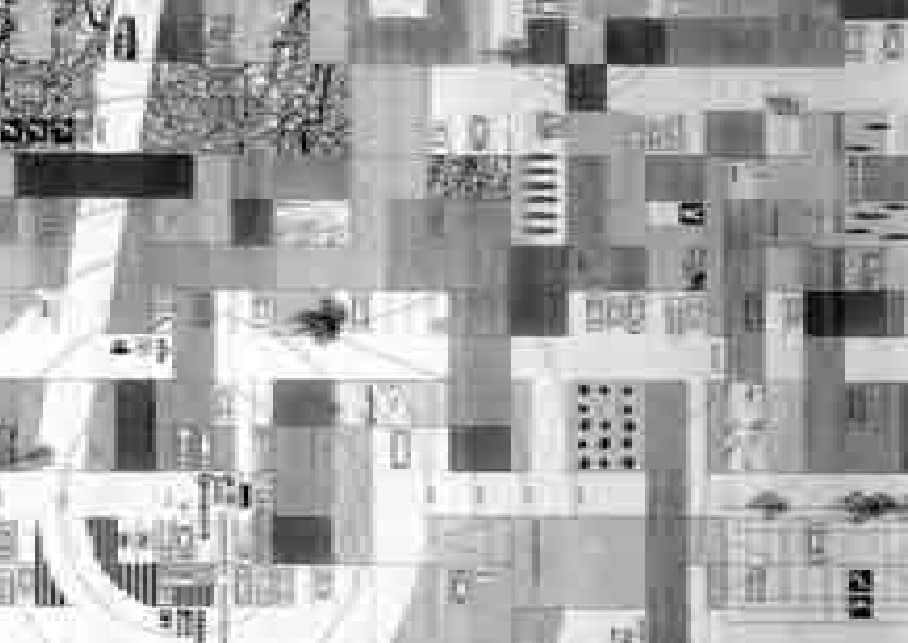
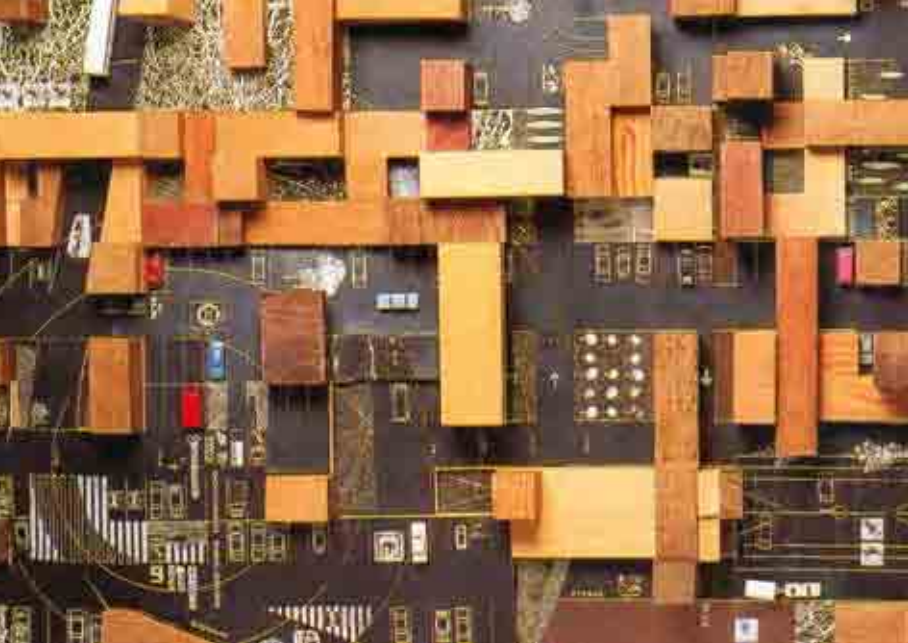
The possibility to exploit that potential variable and vibrating pixilation – converted into a virtual “residential culture” associated



9.27. NL archs.: Flat City residential complex (Leidsche Rijn, 1997): an integrated circuit generated using a folded mesh which articulates green “pixels” around it.

Following pages:

9.28. and 9.29 MVRDV: Hoornse Kwadrant (Delft, 1996) and NL archs.: Flat City (Leidsche Rijn, 1997).





to a potential field or checkerboard of movements – brings us to other experiences that are closer to us, like that conceived by **Actar Arquitectura** for the **Residential Complex at Monte Hacho (Ceuta, 1998)**,²⁶ a three-dimensional *interweaving*, that is also pixelated and directed, which is designed on a slope, in a natural amphitheater facing the sea that houses a proposal intended to express a certain “narrative” condition that exists in domestic architecture.

(“...writing a system that, like a choral narrative, lets us combine multiple individual stories into a single common plot”)

The complex for Monte Hacho forms a massive backdrop, articulated on the basis of a landscape *weaving* made up of terraces and “lookouts” in various colors and textures. The houses and facilities volumes are the result of applying flexible industrialization criteria supported by a basic railed organization, defined using three modular bands with five-meter wide bays. Walls and semi-equipped areas (bathtubs, sinks, toilet stalls and cabinets, compact kitchens and working benches, combined with stair units) slide onto a “backbone” of services that, together with the two lateral strips of variable size, “program” the terraces of the mountain netting its slopes like undulating tracks.

On either side of this central strip, those two parallel tracks of variable occupation are set, silhouetting against them colored bodies, surfaces and various other distributions, interspersed with voids – courtyards and gardens – of multiple sizes and colors.

The idea of a “residential crop” generated as the evolving propagation of a new type of growth/habitat, halfway between the organic and the mineral, the geometric and the picturesque, that has been implanted in a context characterized and developed from a basic pattern generator, gains special importance in this type of flexible netting adapted to the landscape.

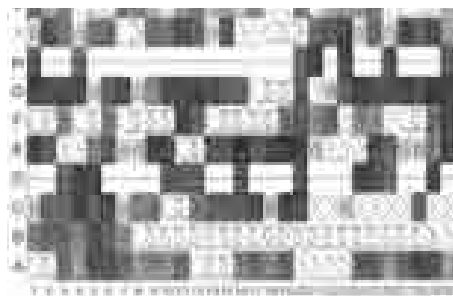
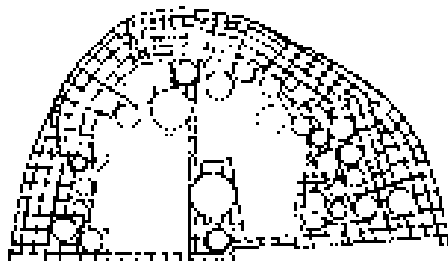
A new type of abstract *rigging* that is deployed onto the topography and which creates a double vision.

From below, the whole appears in its full dimension as a large-scale – global – creation, which is fractalized, as well as unified.



9.30. Actar Arquitectura (Gausa-Gelpi-Pérez Arnal-Raveau-Santos): Conjunto residencial en el Monte Hacho (Ceuta, 1998).

El conjunto se plantea como un “entramado no lineal de base lineal”: un pixelado tridimensional, en pendiente, generado a partir de una matriz abstracta que se despliega sobre la topografía, provocando una doble visión paisajística, vertical y horizontal.



9.31. Weavings and interweavings: diagrams of homogeneity and texture.

9.32. Organic organization as a hive. Pueblo Arroyo, according to Aldo van Eyck, 1962.

9.33. Weavings and urban textures in Pully, Hydra and Marrakesh.

(Pierre von Meiss: *Elements of Architecture From Form to Place*, New York 2014).

MVRDV: Residential Complex Hoornse Kwadrant (Delft, 1996).

From the mountain, only the upper floor of the buildings stand individually above terraces and the horizon, each home recovering its – local – “individual character” above that of the horizontal dimension of the landscape.

(“...from the ocean, a cliff of colors; from the mountain, a mosaic of carpets”)

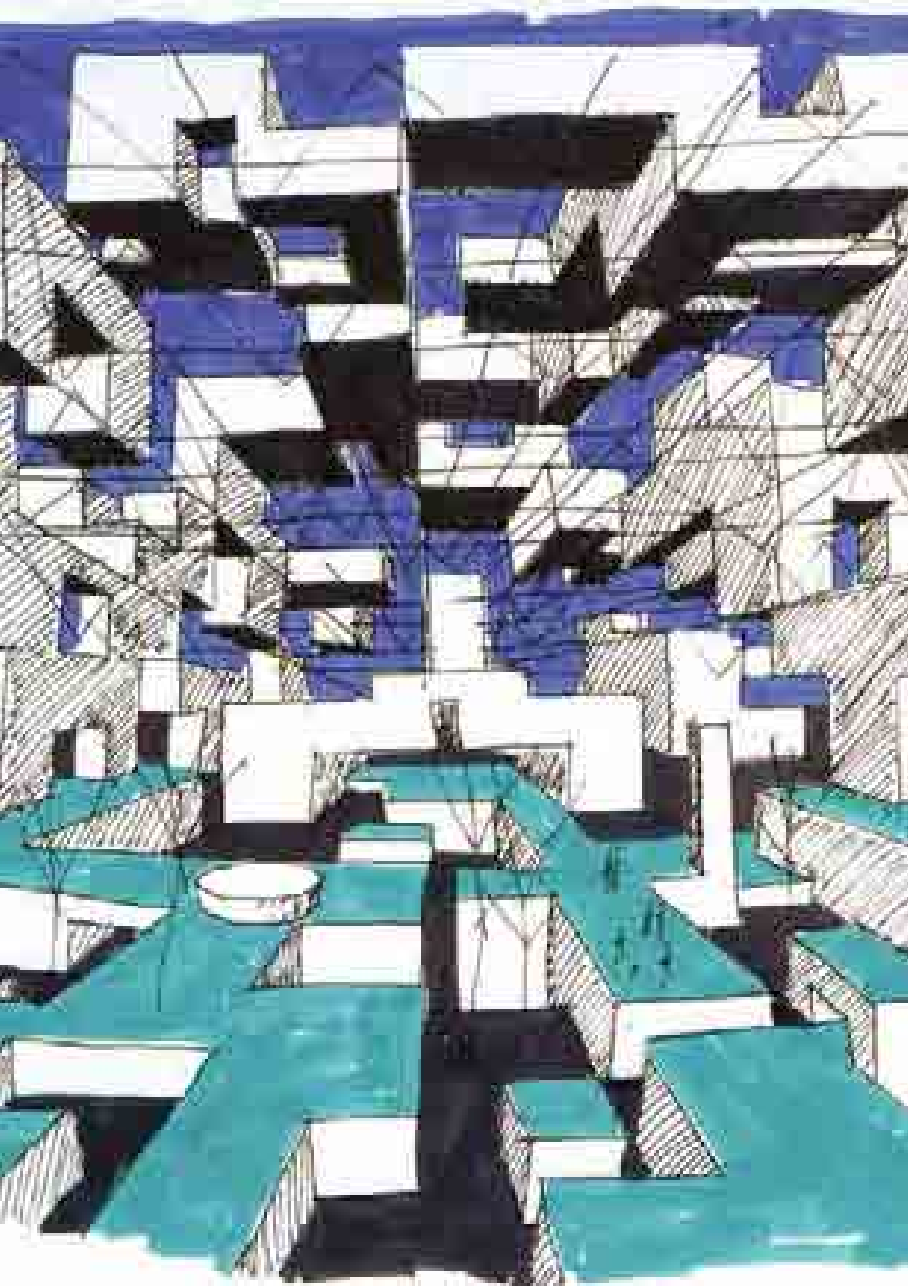
If we refer to the Kasbah as a possible topological reference point for those projects, we notice that a “beehive” organization becomes evident brought by that exacerbation of a grouping of “self-regulated” appearances made out of similar elements, but never identical.²⁷

However, even though most of the interweavings allude to “pseudo-spontaneous” and “quasi-organic” formations (created after differential topological processes of occupation and distribution), the contiguity of similar elements typical of compact organizations (like, for instance, the Kasbah) brings about the idea of a dense and stable fabric in which – unlike the open and dynamic distributions established here – what is full becomes more important than what is empty (which will be barely limited to the groove that the little streets represent).

More similar to possible *dynamic informational* distributions (*pixilations* of variable density and information where full and empty overlap), the *woven nettings* that we are talking about articulates much more diffuse processes of growth and occupation, where *emptiness*, *fullness* and the *linking matrix* take on the same importance.



9.34. Kim Young Joon, Y02 - Paju Book City, 2003-2005



VI. Three-Dimensional Matrices

We noted above, how the abstract nature of netting – as flexible matrix (integrated “mesh” or “circuit”) – ultimately responds to criteria on spatial dispositions of combination and interconnection that are basically three-dimensional. Many of these spatial criteria remind us, meanwhile, of the intuitions and inquiries that were once conducted by Yona Friedman in his studies on complex structures during the early 1950s.

The principles behind his *Spatial Cities* anticipated subsequent research, which can be seen in the investigations by the Japanese “Metabolists” developed between 1960 and 1970, but also in many other contemporary concerns.

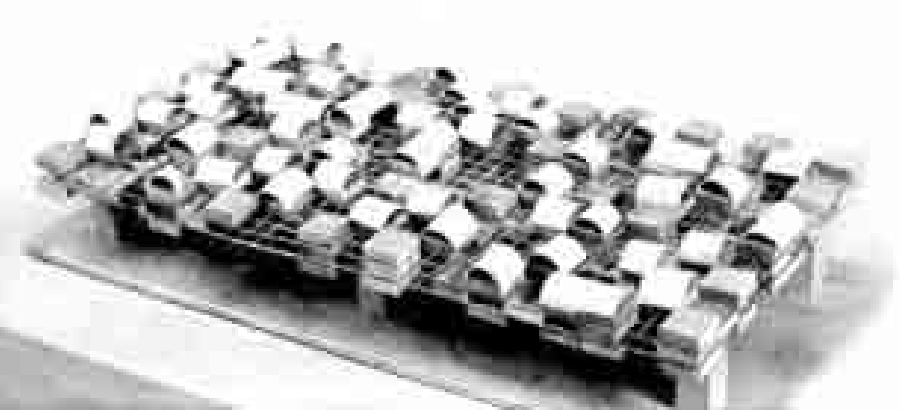
The *Spatial Cities* proposals constitute the most significant application of what Friedman called “mobile architectures”:²⁸ spatial frameworks adapted to three-dimensional meshes capable of accommodating “(in)habited” (inhabited or uninhabited) volumes.

Inside these frameworks, “empty” spaces – uninhabited – and full spaces, cells “in use” and/or “without apparent (“in an indeterminate situation”) use” alternate in a type of structure that “takes on” several configurations and “adapts itself”, at the same time, to multiple situations (areas that were difficult to build on or already consolidated fabrics) to be used, as Friedman himself suggested, as deposit landscapes:

“Reversible landscapes, ‘temporal’ keys between city and country, spatial ‘infrastructures’ framed by the third dimension.”

In his article “*infrastrutture possibili*”,²⁹ Friedman classified spatial infrastructures into three basic types: one-dimensional, two-dimensional and three-dimensional.

9.35. Yona Friedman (1923). Studies for a Ville Spatiale, 1958/1959 (A. GUIHEUX: *Collection d'Architecture du Centre Pompidou*, ed. Centre Georges Pompidou, Paris 1998).



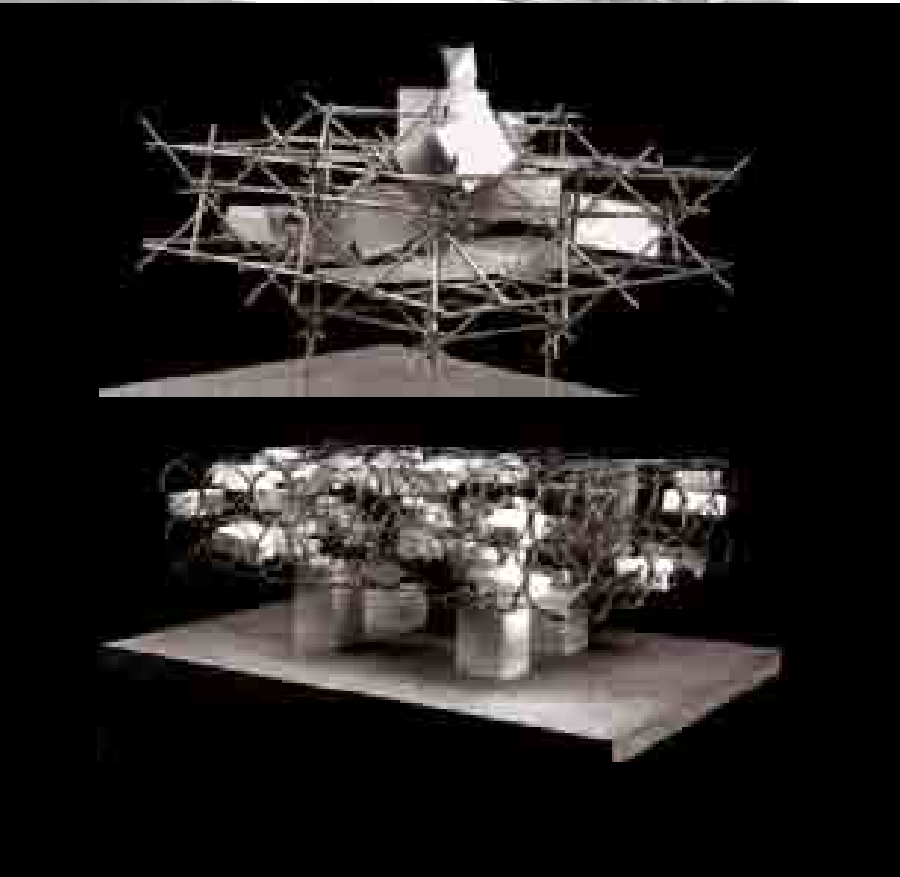
The first are driven by the notion of an “axis” and, therefore, a deficient hierarchical nature (at some point, conflict interrupts the functioning of the whole system); the second (the checkerboard arrangement of Manhattan or Los Angeles are the usual paradigmatic examples) show less of a hierarchy and more isotropy and connectivity, but they do not favor an open or “diffused” (indeterminate and flexible) occupation of space. The three-dimensional structure, according to Friedman, is the only one capable of assuring the most versatile and flexible spatial “meshing”:

“A cellular structure ready to be used and a framework ready to be colonized.”

However, and despite the theoretical enthusiasm generated by Friedman’s proposals, in these experiments the notion of “infrastructure” still prevails, understood as a “mega-structure”, i.e., as a “habitable” structural framework more than an *infrastructural circuit* – or a *combinatory mesh* of movement(s) – immanent within its own matrix-like definition and implicitly flexible and modifiable in its overall evolutionary configuration. The reference to a framework is symptomatic because of its attachment to many other parallel mega-structural inquiries, as pointed out by José Antonio Sosa and María Luisa González in their text “Vacío: deriva y captura”:³⁰

“In a structuralist buildings, ‘frame structures’ work by capturing part of a space and then allowing for its occupation through the insertion of forms. These inserted volumes are both architecture and interior space. The architecture, which is located conceptually in the gaps of the frame or net, occupies or captures space as opposed to creating it. The usable space is predefined, designated, by the band of indetermination or by the volumetric external outlines of the frame. The creation of a fuselage, of a structure to “fasten” things on – as in the case of plugins – with the aim

9.36. Yona Friedman: Spatial City, 1958-1960 / Spatial City, 1958-1960 / Spatial City, 1958-1959 (in “The displaced grid,” RIBA Architecture Centre, London, January-March 1998).



of combining, empty space, air and volume in the interior, constitutes an important leap for modern architecture [associated with] the pioneering proposals by Archigram and the Metabolists, preceded by some of Le Corbusier's work and other more conceptual designs like those of Cedric Price (the Fun Palace, for instance), or the early work by Terry Farrel and Nicolas Grimshaw."

If, in the Metabolist framework, the structure – the fuselage – stood out above the construction itself, in the meshes – (inter) netting circuits – that we are analyzing here, the creation of a matrix, immanent and/or underlying, almost invisible, no longer (mega)-structural but (infra)structural, i.e., with a dynamic and relational definition, becomes very important.

The space described here refers to evolutions produced between multiple movements and situations – dynamic episodes; both as “inter-implicated” and independent, both repeatable and open to syncopation, both intertwined in their agency and deformable in their evolution. Dispositions proposed as a “spatial tessellation”, irregular and intermittent, rather than as a strictly defined “path”.

These vibrant – because they are “restless” – *weavings* and *interweavings*, generators of *paths of occupation* (combinations of movements and transit) linked to other multiple *braided paths*, which cover the “whole range of states” – or developments – that describe the internal shifts created by a, virtual, “dynamic episode”, referring to the circuits and the basic rules of occupation based on sliding, channeling, overlapping and crisscrossing; movement and stillness.

In any case, the goal is to overcome, in – and with – those matrix organizations, the old concept of mesh – or weave – as a strict “grid”, i.e., as a mere orthogonal “planar layout”, the old pillory³¹ of the checkerboard city.

Whereas the repetitive “grid”, so frequent as an urban element (from Manhattan to Cerdà), could also be understood as a type of elemental “weaving” – or net – potentially flexible in exploring

its resistant structure and its character as an undifferentiated *mesh of occupation*, the concept of “interweaving”, which concerns us here, mainly refers to a more complex organization in that it is “enmeshed”: that of a virtual three-dimensional “tangle” more in line with the concept of a concordant mesh or net (also related to the fractal “tremas” [holes/gaps] described by Benoît Mandelbrot, which so interested Robert Le Ricolais), as dispositions intended to lend a similar role to both “fiber” and “hole”, definition and indefinition, the full and the empty: laces, openwork, pointelle... Various recent projects explore and exploit the power of an open intertwining and braiding in space, showing a particular interest in how to cross warps, how to thread them through each other, how to leave holes/gaps and how to connect them and arrange them properly.³²

(“...that permanent interest to think about gaps as the place where the secret of the constructed form resides...”)



9.37. Dennis Crompton: Computer City, 1964. 9.37. Dennis Crompton: *Computer City*, 1964.



9.38. UN studio (Van Berkel & Bos): Houses in Borneo Sporenburg (Amsterdam, 1996) Model with basic genotype and combinatory chains.

9.39. Yona Friedman (1923). Model of a "spatial city" where the use of space in the interior of the modular mesh is demonstrated.

Some projects by UN Studio (Van Berkel & Bos) would be paradigmatic, in this sense.

It is worth highlighting their proposal for the **Residential Complex in Borneo Sporenburg (Amsterdam, 1996)** because of its relation with the arrangements that we are discussing. A central emptiness and four abstract bays: from such elemental "program", the different tested combinations are distinguished by the open movement in space of a series of induced paths ready to elicit different expansions and recesses, flights and cuts, courtyards and semi-courtyards, setbacks and swervings, set up throughout overlapping strata in relation only to supporting bays as the only "program" of reference.³³

Variations and movements are not limited only to their different position on the horizontal plane, that of the two basic referential guidelines (orthogonals), but those produced in space in an open way through intrusions and extrusions (straight, curved or polygonal) of vague as much as intentional deployment. Although the project consciously adopts many of the associated properties related to knot or loop dispositifs – like twisted meshes, which we are going to analyze below, the final configuration of the whole (re)produces an unusual network that reveals itself as a dense net of different incidents and shifting layers connected to that basic program, understood as an invisible network that, also here, only structures events.

The concept of an abstract pattern made out of "aligned" lines and points should lead to the conception of possible *elastic interweavings*, which are potentially diverse and discontinuous: lines and points that are independent and intertwined at the same time, "shifted" relative to each other, even though they remain also mutually "interwoven".

The term "moiré" interprets this type of texture, produced by the superposition and overlapping of different *weavings* (or *interweavings*) that which combine these readings into a new geometry, which is much more complex and irregular.³⁴



VII. Knots and Ties: The Ring Culture and the Logic of Belts

The spatial devices (*dispositifs*) identified as *knots* can also be understood as *meshes* or intertwined and/or twisted *circuits* of movement: as opposed to responding to a pre-existing setup – a framework – the built volumes trace a circuit or a flexible – tangled or braided – path with the potential for articulating movement and program.

Buildings create their own bow or lasso – like a *meshed link* – “tightening it, closing it or releasing it” in keeping with the definition of a bow or a knot.

They appear as *tangled nettings*, as a *built circuit* or *loop of activities*.

The process refers directly to the notions of knot, bow, lasso or braided cord, and – extrapolating both the word and the scale – to the (related) structural concept of *rope*, which – as we have pointed out – was of great interest to Robert Le Ricolais:³⁵

“The chord, understood as a solid, a product of twisting strips and fibers, becomes, indeed, a notion of great structural efficiency whose importance lies precisely in its own screwing process.”

In this sense, the knots are “coils” of meshes or of the circuits mentioned above, spiral condensations of density associated with belt or rope structures brought subjected to occasional entanglements or braiding effect.

Cordons – criss-crossed, threaded or intertwined – where the distance between events is reduced and the movements of unfolding are replaced by trajectories of refolding.

Knots, as *link-ties* of concentration and compression.

Knots and loops as mesh structures (nets and netting) refer to a city made out of multiple intertwined circuits and/by connection loops.

9.40. Mesh and knot. Highway loops in Santa Ana, California. Detail.

9.41. Mira Schendel: Droguinha (Naderia), 1965. Intertwined knots.

The concept of a knot, bow or loop is associated with “accorded” structures (and geometries) – spiraled, coiled and twisted (in braids or spirals) – where the “empty-full” discontinuity no longer a sequence (netting or weaving), but an overlapping (mesh).

Flexible and complex structures that effectively respond to the recurring parameters of the dynamic arrangements we are concerned with here, incorporating an important elastic potential when it comes to conforming, deforming or adapting (“according”, in short), and realizing diverse and indeterminate “programmatic” evolutions.

The developments proposed in this way gather up and extrapolate an *inter/trans* situation – between paths, flows, spaces and transfers – demonstrating a crossbred character that is halfway between construction and the infrastructure.

Knots, bows or loops manifest themselves as spatial paradigmatic “anti-types” as a result of their specific mixed condition between building and infrastructure.

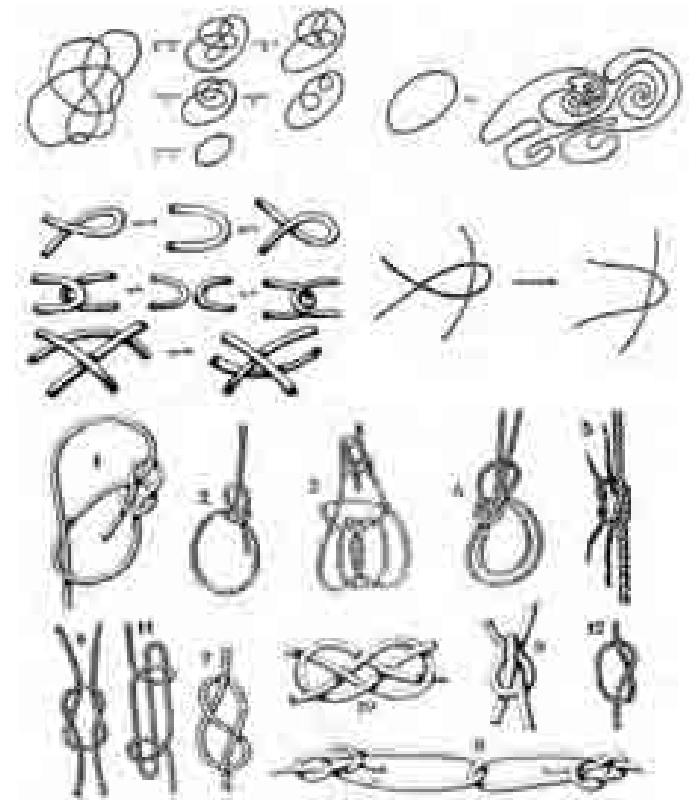
Their accurate, as well as, fluctuating configuration directly reminds us of that architecture of fast encasements that surrounds the contemporary metropolis.

As Willem Jan Neutelings pointed out in his essay “The Ring Culture”:³⁶

“The ring developed its character by a physical paradox whereby the great programmatic density does not lead to a high building density in traditional city centers. A minimum of spatial facilities can create a maximum of mass evens.”

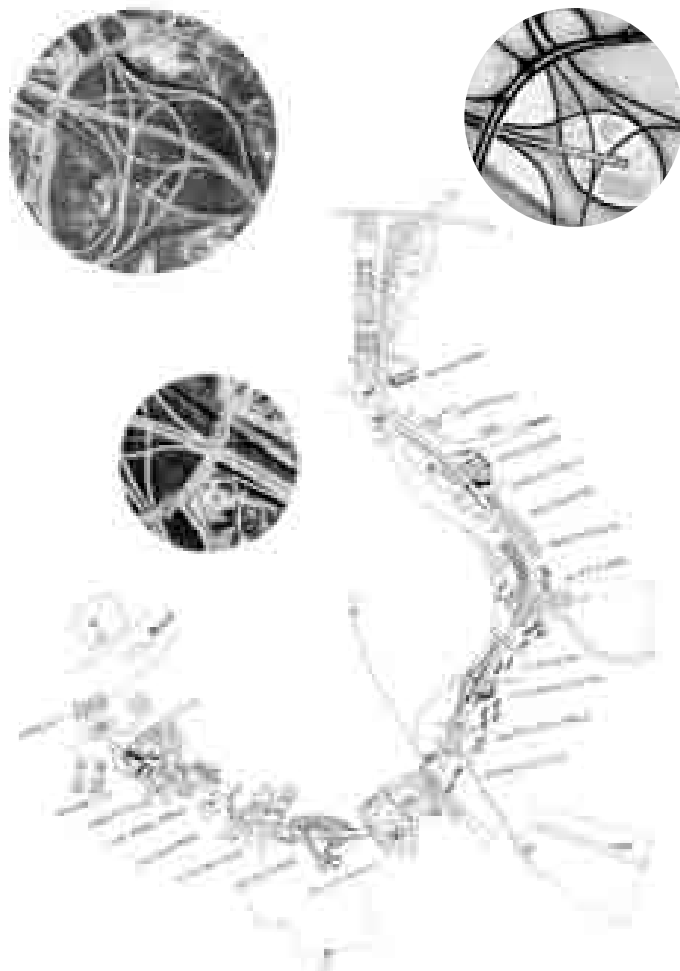
This type of fibrous, multiple and differential structure is characteristic of urban mobility, making it similar to a huge fibrous “lacing” of structures and infrastructures designed in keeping with the speed and efficiency of flows, according to multiple meshed coincidences of arches or spirals and based on intertwined, circular or cambered sections, determined by a turning radius, and by the characteristics of the site and the topography.³⁷

“The best architecture of the ring road is on the ring road itself. Once again engineering surpasses in beauty, by virtue of its scale, its precision, its quality and its constructional clarity, any element or space associated with the ring road. [...] The ring road in its continuity is in itself its own world independent from the city, which it vitalizes with its infinite movement.”

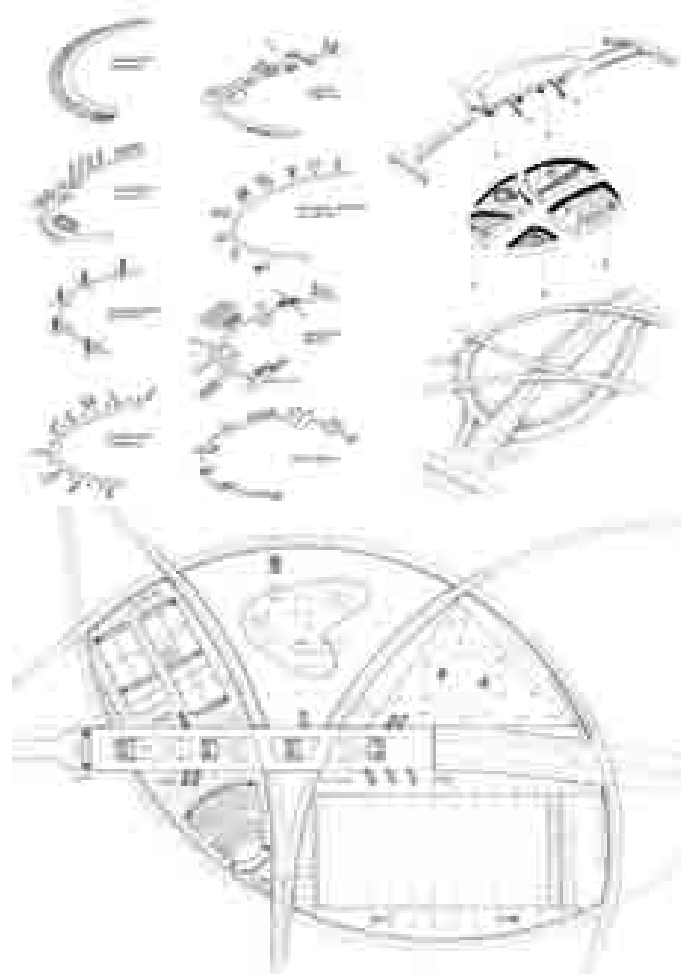


9.42. UN-Studio (Van Berkel & BOS): Diagram of knots (in *Quaderns* no. 222, 1999).

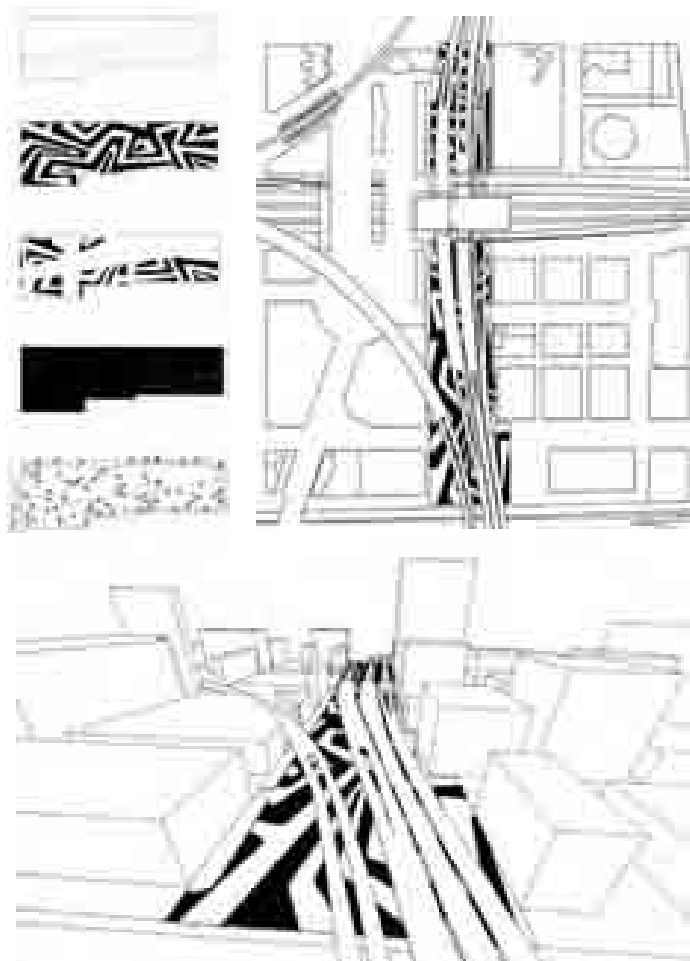
9.43. Catalog of sailor knots (archive).



Selected images from Willem Jan Neutelings' essay "The Ring Culture." The study pays special attention to the notion of "crossing" in road intersections as a multiple and multiplying programmatic scenario, halfway between what is architectural and what is infrastructural. (in Willem Jan NEUTELINGS: De Ring Cultuur, ed. Vlees en beton, Rotterdam 1988).



9.44. and 9.45. Two images of specific sites.
 9.46. Book cover showing the plan of a restructured knot.
 9.47. Highways as a cordon of activities.
 9.48. Menu of programmatic situations.
 9.49. Plan of a restructured knot with leisure and tertiary activities.



The West 8 project for Carrasco Square consists of restructuring a road crossing and returning it to use as public space. Large colorful tracks of asphalt and grass, the introduction of landscapes made out of plastic and bollard lights change that scenario into a meeting point between nature and infrastructure.

9.50. Floor plans. Diagrams of the entire project and aerial view.

VIII. Xcrossing(s)-Multi-Dimensional Knots (and Intersections)

In his essay “**The Ring Culture**,” published in 1994,³⁸ Willem **Jan Neutelings** paid special attention to the specific situation of the road junction or intersection as a potential multiplying scenario (a scenario that had also captured the attention of authors like **Victor Gruen**³⁹ or **Hans Bernard Reichow**⁴⁰ in the early days of studies on mass mobility):

“The zones along newly built circular motorways are the ideal location for this program; they are the last open spaces within the urban agglomerations and their central position between the city center and suburb guarantees easy accessibility to the general public, an absolute necessity for this type of mass function. [...] A minimum of spatial facilities can create a maximum of mass events.”

Neutelings himself provided several examples of this appropriation of condensor spaces situated along **The Hague’s Ring Road (1993–1994)** through the placement and resolution of both old and new architectural program.

The “constructions” that are inserted there extrapolate this condition of intersection between paths, spaces and transfer situations, demonstrating the hybrid infrastructure/architecture that we described above and which, ultimately, expresses a concern for recycling the potential of infrastructural knots, evident also in other parallel lines of inquiry including the proposal by **West 8** for **Carrasco Square (Amsterdam, 1992)**,⁴¹ conceptually related to the preceding considerations, which presents a landscape and architectural restructuring of a major road junction and its recovery as a public space.

The treatment of surfaces, like big colorful “treads”, made out of colored asphalt and grass, and the incorporation of synthetic natures (tree trunks, artificial turf, rubber fixtures, etc.) and beacon lighting, turn that scenario into a meeting point between a plastic landscape and an infrastructural landscape.

The different operative knot proposals submitted by Actar **Arquitectura** in relation to the strategic planning **Catalunya Land Grid (1998–2000)** narrow that type of research to a functional and landscaping recycle of those crossings, which remain situated in the productive scenarios that are linked to the possible future of a discontinuous “multi-city”.

The title, **Barcelona Around**, conveys the main idea of the proposal. It plans a virtual “meta-park”, variable and discontinuous at the same time, based on a local recycle of existing residual landscapes, the in-between, created on those crossing and exchange points that surround most urban centers related with the new metropolis. It becomes a sequential and intermittent whole intended to behave like a beaded necklace (knots and crossings) with its beads threaded out of sync, and linked “to” and “by” the arteries of infrastructural support:⁴²

“The open interstitial spaces that emerge in between current city limits and the fast lanes that crisscross them form a clear system of syncopated territories whose shape could be refurbished into different local versions until they all became an authentic set of “pre-parks” surrounding official natural parks.”

The possibility of stretching (like a facelift, between virtuality and reality) the limits of landscape to reach the road in such a way that certain plastic and architectural treatments can generate a hybrid “vision” between “architecture”, “landscape” and “infrastructure” generated on (and from) the high-speed roadway allows for proposing a possible strategy for obtaining open space at a low cost (and with a high impact) through the programmatic exploitation of the residual spaces that lie on the borders of large highway interchanges.

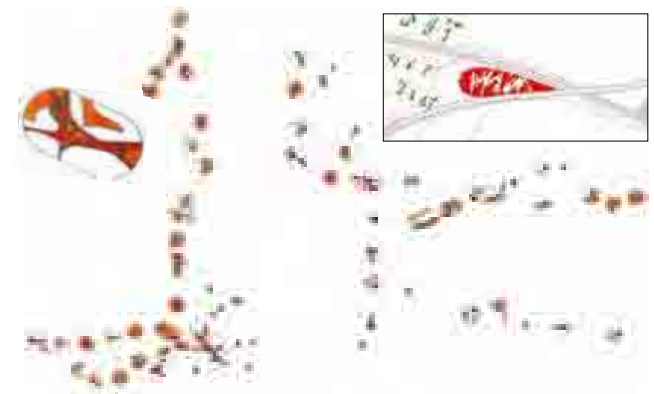
This occasional coupling between architecture and infrastructure can create a menu of situations that, even though they might be “generically” related, they are diverse and specific (linked and exclusive at the same time), and materialized into possible hybrids of use and activity.

“Infrastructure + landscape” and “landscape + architecture”

merge into successive – and disjunctive – scenarios of crossing (“parks-in”) potentially related to the mixed nature of mobility and its capacity to generate new situations of use in a place (or places).

In their interesting proposal, **Mar en Madrid (Madrid, 1998)**, **Efrén García and Cristina Diez (Cero 9)** proposed a similar strategy.⁴³ The goal is to provide the city with places for leisure and group activities.

The “artificial sea” consists of a parasitical exploitation mechanism of the transportation networks, working at the maximum accessibility level (the south node of the M-30 highway, for instance, close in time to other nodes of infrastructural exchange and the center of the city itself). Conceived as a hybrid infrastructure destined to accommodate, at the highest degree of freedom possible, aquatic programs and activities in an apparently terrestrial context. The proposal suggests a bastardization between architecture, infrastructure and landscape, which is inserted into the flow of an extra-urban mobility that operates through a multilayer dispositif gathered



“Knots and intersections: in infrastructures, a new nature”; the project suggests a functional use for residual in-between landscapes, generated in exchange nodes. 9.51. Actar Arquitectura: “Collserola Around” (Barcelona, 1998). Map of Barcelona based on the road crossings around Collserola.



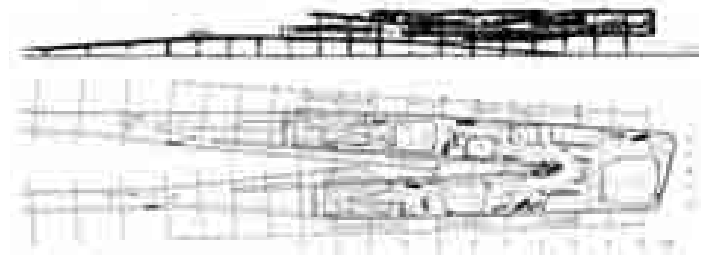
from adaptable platforms based on wide span structural systems. The project is developed as a continuous belt, a loop of overlapping ground in continuous layers – “with” and “on top” of one another – that spiral like a complex traffic interchange with the aim of generating a point of focus for leisure. The systems intended to help with traffic and mobility are transformed into architectural dispositifs, simply by increasing the widths of the ground and varying the materials used for the finishes.

This new truss structures a “specialized segment” of the traffic system, capable of “fitting” into it, on the upper level, introducing its own laws and configurations.

From this idea, we can extract its disposition as a knot or loop among interconnected groundings.

The roof shapes a landscape of artificial topographies formed by hills and undulating depressions – basins – that are colonized by light elements and various activities.

This suggests a new kind of space, understood as a parasitic refresher of the global infrastructural mesh itself, capable of syncing with it and, at the same time, endowing it with a new type specificity or local contingency.



9.52. Efrén García and Cristina Díez (cero 9). Sea in Madrid (Madrid, 1998). Model.

9.53 and 9.54 Actar Arquitectura (Gausa-Gelpi-Pérez Arnal, Raveau-Santos): “Collserola Around” (Barcelona, 1998). Plans of different sites.

9.55. Efrén García and Cristina Díez (cero 9). Sea in Madrid (Madrid, 1998). Floor plan and section.



IX. *Transferias*

Although generated from a different perspective, the majority of the above mentioned concerns are linked to what **O.M.A.** suggested in their ***Transferia*** proposal.

As result of a contest organized by the Dutch Ministry of Transportation in 1992, what was known as *Transferia* gathered a series of proposals in relation to the different “transport hubs” that exist around the city.

Conceived as buffer buildings (“barriers” and “mobilizers” at the same time), they are spaces designed to take advantage of those “crossing” possibilities (explicitly and metaphorically) that take place in the context of a set of infrastructural circuits in need of critical rethinking, but strategically exploitable – and recoverable – combining density and easy accessibility at a low price.

Transfers, as “non-places” transformed into “node-places” and “proto-places”, hybrid replacements for the city.

Para-urban mutations, developed as spaces for attraction and absorption, “condensors” of weavings, but also functional “couplings” with mixed-use program.

O.M.A. was going to bring together a large number of these concerns to the project of the **International Business Center in Lille (1988-1998)**.⁴⁴

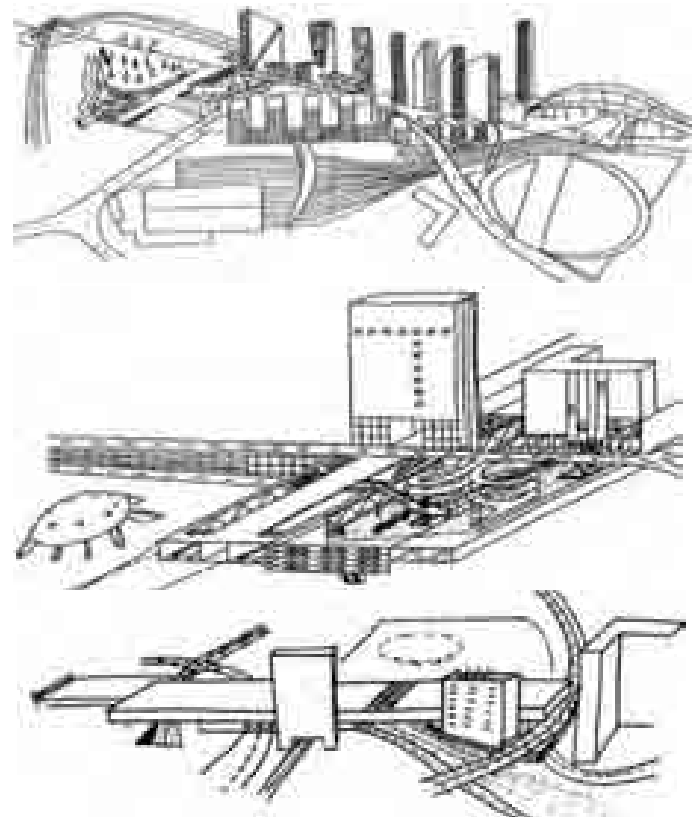
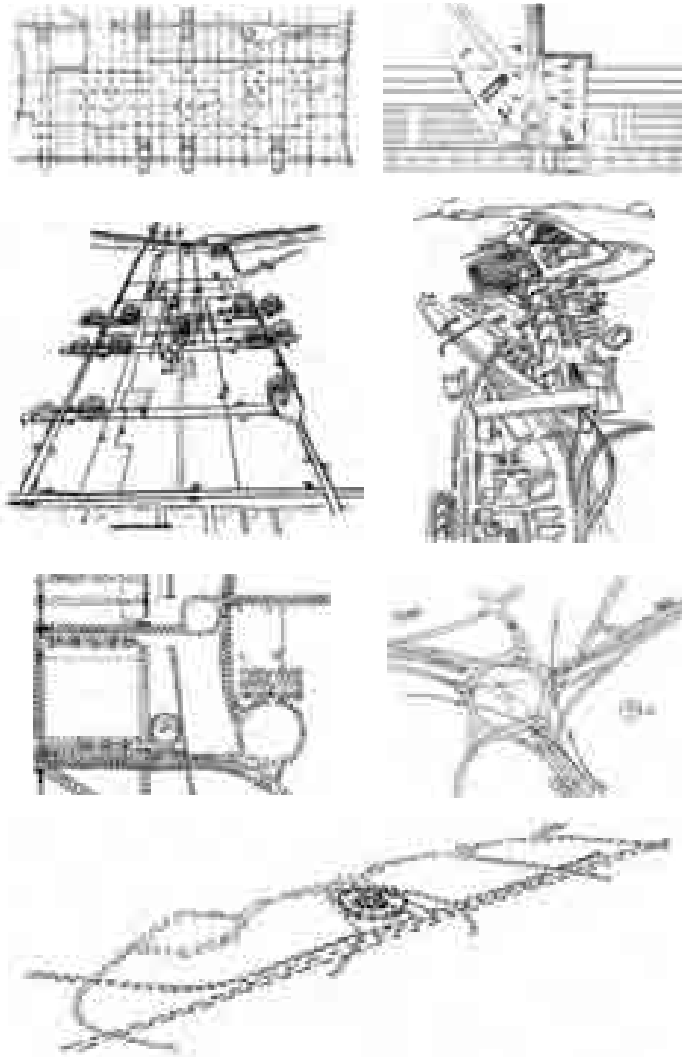
Embodied as a huge ***Transferia***, a point of intersection and looping and a multi-nodal (multi-knot) interchange, the goal of the project lies not only in a dispositional resolution, but mainly in its resolute expression as a possible strategic and tactical operation; a redirector of flows in a preexisting urban reality with the ability to respond to the new geologic conditions resulting

from the presence of a high-speed train in a city that is a “crossroads” – at the halfway point between important international focal points – and the resulting reevaluation of that city’s place on the map of Europe.

At a first level of definition, the programmatic expression, fundamentally infrastructural, intended to combine traffic circuits, exchange knots and connection meshes around the new train station, already shows that condition of a great knot, bow or lasso – as linking mechanism – that exist among flows, stops and scenarios that take the complexity of this connectivity as its outstanding characteristic. That expression of a complex condition, typical of a vast braided network of interconnections, contrasts with the, almost immediate, simple tackling of the big buildings – the Forum (triangular) and the Congrexpo (elliptical) – which recall specific identifiable geometries in a more general structure, one with a heterogeneous base configured through the overlapping of strata – and links between them – as if it were in a huge attractor loop.



9.56 and 9.57. O.M.A.: *Transferias*. Layout and proposal for *Transferia Eurolille* (Lille, 1990-1994).



It is interesting to compare the traffic diagrams created by Louis Kahn for the reconstruction project of the Center of Philadelphia (1956) with the ones proposed by O.M.A. for Eurolille in 1990. The importance of flows, and of the exchange dispositifs, is apparent in both cases, even though the (mono)functional specialization of the former, is replaced in the latter by processes of hybridization among architecture, city and infrastructure.

9.58. Louis Kahn: project for the reconstruction of the Center of Philadelphia (1956). Overall plant design, perspective and detail of a connector.

9.59. O.M.A. Rem Koolhaas: Project Eurolille (Lille, 1990-1994),

9.60. Overall plan, perspective and detail of a connector.

9.61. Sauerbruch-Hutton. Study of flows in a traffic node (Berlin, 1996).

Above. 9.62. Urban restructuring project for Eurolille (Lille, 1990-1994).

Overviews (in *Lille-OMA*, ed. Institut Français d'Architecture, 1990).

The definition of that loop trajectory is conveyed, in an explicit way, by the majority of images and visions of the whole, in which that swirling, simultaneous and overlapped definition emanating from flow channels, relational surfaces and linkage belts (or bows), takes precedence.

Although the **Euralille project** constitutes the most emblematic embodiment of those loop logics destined to braid spaces, movements and trajectories, the most purposeful “advancement” of this type of research in relation to the condition of “*knots*” that occupies us here can be, perhaps, acknowledged in **O.M.A.’s project for the Zeebrugge Sea Terminal (1990)**.⁴⁵

Conceived as a possible reactivation focus for a sector – economic and geographic – in crisis, the proposal is basically conceived as a helical intersection of flows, a complex traffic loop. While the lower levels are used for the structuring of different interconnected means of transportation (ships, cars, busses, etc.), a spiral with 2,709 parking spaces and – on top of that centripetal space of connections and self-service posts – a big great public area, as well as several office spaces, a hotel and a casino on the upper levels, rise above that initial “machine of movements”.

The project can be defined, therefore, as a huge “programmatic” hybrid, an urban concentrate halfway between a traffic classifier and a mega-functional milestone that is even set to rethink the symbolic paradigm of the dome, here placed – in an intended unorthodox way – on top of an inverted cone, virtually unstable, as an unequivocal image and, at the same time, as the external shell of the immense swirling interior space.

A “predetermined” design in its figuration – in the closed definition of its silhouette – but conceptually dynamic in its supporting expression as a knot of linkages – or a lasso – with the potential to combine the mobility, mutability, overlapping and the crossbreeding of the contemporary “traveler-nomad”.

That “shelled” and also “swirling” definition, in which “encapsulated” programs, platforms, belts and flows are interwoven and tangled, manifests itself also, in a decisive way,

in the project of **Un Studio** for the **Yokohama Ferry Terminal (1996)**.⁴⁶

Here, through the intentional combination of a floating container and a spatial loop, they address again the needs of a building intended to be a big hub for ferries.

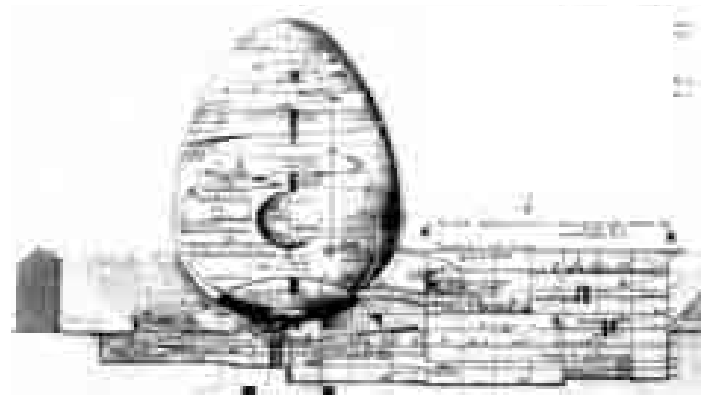
A large membrane, substantially ovoid and longitudinally deformed, marks the exterior top of a big interior knot/space, an “entre-plateaux” onto which several trays, conceived as autonomous and fluctuating surfaces, are interconnected, spreading and gathering themselves back, and arranged in relation to each other through an infrastructural central spine. Like a complex tangle of overlapping bands, its intertwined interior expression reminds us of a turbulent structure, similar to puff pastry and very close to the ones we have mentioned above.

“A virtual tornado in the middle of the sea, where the excited and exacerbated, fluid, dynamic indicates the presence of a single material: storm-tossed water.”

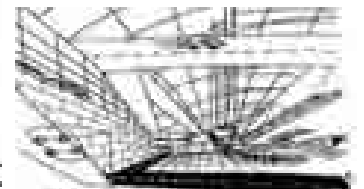
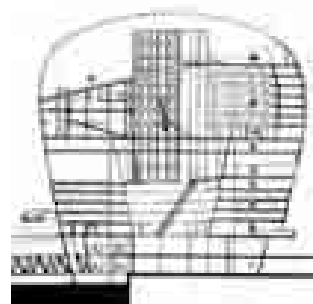
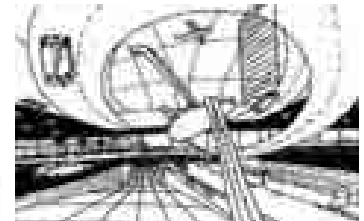
In fact, it is in this exchange of flows where the infrastructural nature of the knot, bow or loop is most explicitly evident.

In this sense, it is enlightening to compare the two preceding projects with the project “**l’Oeuf**”⁴⁷ that **Yves Bruyère** proposed in the 1960s as a prototypical preview of a dispositif capable of adapting itself to diverse strategic situations of “metropolitan crossing and gathering” type.

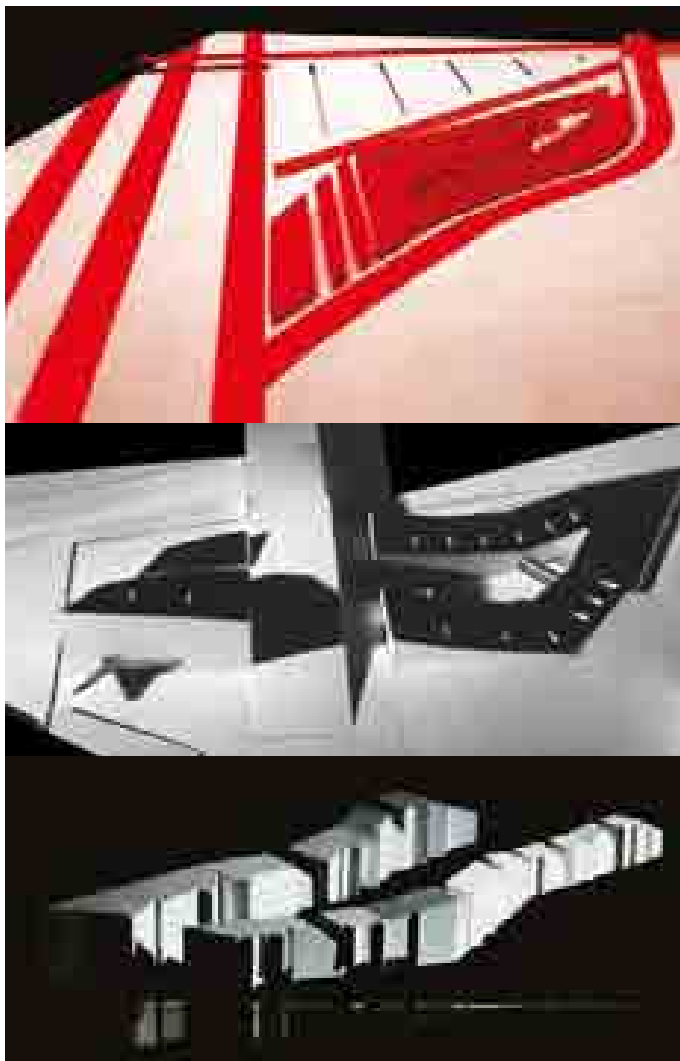
These designs stand half way between knots and nodes, and are apparently static in their exterior presence, but decisively dynamic in the materialization of the fluctuating landscapes deployed in their interior.



The infrastructural nature of certain knot conditions manifests itself in a pragmatic way in the inner-swappers of flow, static pieces in their geometric description, but virtually dynamic in the materialization of the fluctuating landscapes that all deploy inside.



- 9.63, 9.64 and 9.67. Yves Bruyère: Prototype for a mixed-use interchange. Models for the New York proposal (1977-1978) and for the Centre Pompidou (Paris, 1971) and section of the proposal for the Centre Pompidou, Paris, 1971
- 9.65. and 9.70. UN-Studio: Project for the Yokohama Ferry Terminal (1995)
- 9.66 and 9.69. OMA-Rem Koolhaas: Zeebrugge Ferry Terminal (1990)
- 9.68. OMA- Rem Koolhaas: Urban restructuring project for Eurolille (1990)



X. “Resonating with the Highway”

Such premises can take us back also to some research conducted by **Martin Price** during the nineties around the spatial potential of mobility.

“**Resonating with the Highway**” is the title of a series of works produced between 1994 and 1996 intending to explore possible lines of action that foster “attuned” situations – as Price himself pointed out – between infrastructural meshes and constructions.⁴⁸

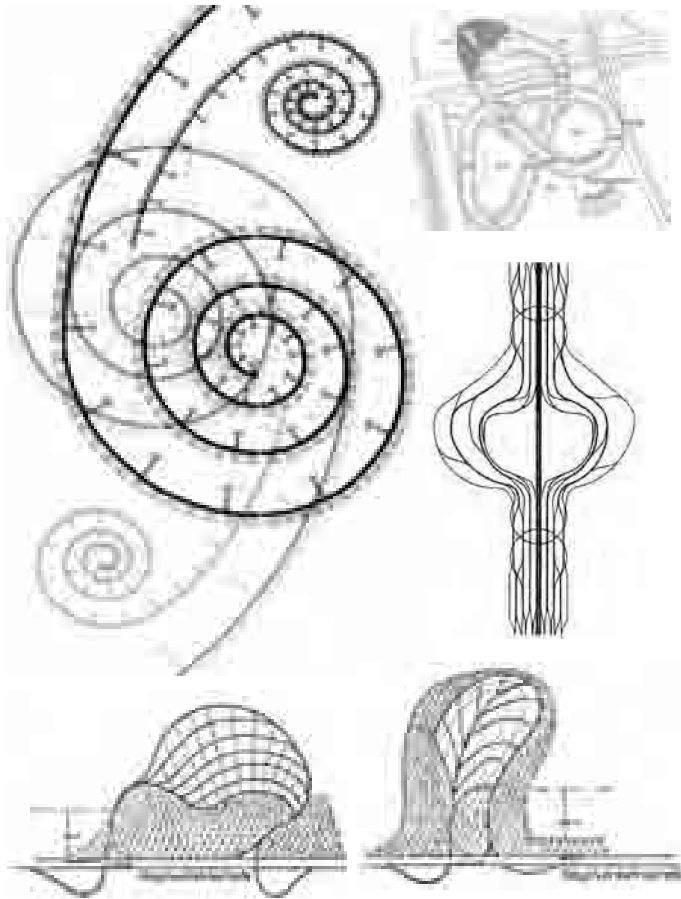
“The highway can be regarded as an intruder in the pastoral landscape and life of the rural countryside, or as an intruder in the geometry and life of the urban core. The highway can be ignored as a powerful force of movement, and architecture can continue to react solely to the rhythms and the tempo of the foot rather than also react to the rhythms and tempo of the wheel. [...] However...an appropriate architectural response can be achieved by letting it course through flowing lines, flowing spaces, flowing forms; with the dynamics and rhythms of the flowing river of movement, the highway. [...] If we engage architecture with the highway and take advantage of the logic of the highway, then the result can be a more organic integration of forms and forces, not unlike the way rivers carve out canyons.”

To design a nudged and intertwined architecture with the movements of traffic, and to integrate itself in their linear, curbed, ascending and descending contours was the goal of the research. It was intended to answer their throbbing “rhythms” in order to generate a “new and powerful force of expressive energy” from which to tackle that possible harmony between construction and infrastructure through working “with” the land, “in” the land and “from” the land, scrapping it as if it were a dynamic force. In several theoretical works taking place at the Arlington highway, Price showed what it meant with this type of approaches.

“**Resonating with the Highway**” is the title of a series of projects conducted by **Martin Price** between 1994 and 1996, which were intended to explore strategies of synergy between construction and infrastructure.

9.71 and 9.72. Martin Price: knot with facilities, Arlington highway (University of Texas, 1995).

9.73. Civic knot (City Hall), Arlington highway (University of Texas, 1995).



Many mesh devices can be associated with the study of the topologies and the dynamic logics of movement.

9.74. Hans Bernard Reichow: Chronotopic Maps (1959).

9.75 and 9.76. MVRDV (Maas-van Rijs-de Vries): "L-Loop". Prototype for a mixed-use link (Almere, 1996-1998) / Refolding/unfolding of a traffic skein

(in MVRDV: "Living along the highway," *Quaderns* no. 218, 1997).

9.77. Space/speed deformations (*Die autogerechte Stadt*, ed. Otto Maier, Berlin 1959).

Detecting powerful possibilities for reflecting on the infrastructural and formal resolution –topological rather than iconographic – of "topical" programs located in marginal landscapes:

"How to engage a highway with a performance hall, a community center, a city hall?"

Although most of these exercises were proposed through the exploration of basic sequences – lines of force – there is also an underlying systematization of residual voids and an approach to the notion – and disposition – of a "loop" as a spiral of superposed, coiling or overlapping spaces.

In most cases, this involves working with the concept of coiling (one thing inside of the other) in order to propose a type of spatial dispositif capable of reacting to specific conditions in term of site and program, while adapting, at the same time, to the momentum of the highway, bringing together roads and architectural space.

"Such architecture can express the consonance and oneness of building and roadway by sculpting with the land, in the land, on the land, and by stroking against the sky, in the sky, on the sky."

The real and two-fold conflict – noise and air pollution – highlighted by Prince himself in this type of strategies points out several solutions destined to neutralize and redirect these tensions using adaptive movements and tactical incorporations of environmental correction. These operations necessarily refer back to new types of *technical and formal* conceptions present in the already unfolding spatial trajectories, as well as, in the encasements and materials used from a logic split between a public construction and a civic work.

XI. Big Loops, Big Building: Loops, Bows and Links

Several more recent projects were also going to explore that vocation for braided links among prototypical elements of mobility and new metropolitan programs appearing relation to them.

Hybridization was also one of their characteristics, an antitype concept that finds in Big Buildings – huge centers of attraction, acting as focal points of exchange and interurban consumption – a paradigmatic reference due to their crossbreed nature which comes from four types of program.

Alex Wall analyzes, in numerous projects, this strategic role of the “peri-centers” as areas of intersection and potential attractor nodes:⁴⁹

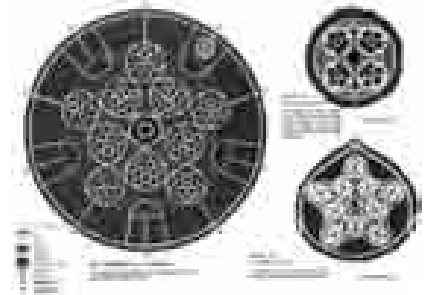
“Suburban shopping malls, having become essential elements of daily life for much of the Western middle class, act as structural nodes in growing areas of influence and they work as real centers of gravity for future development. The latest generation of supra-regional centers have all the scale and channeling coherence of airports, in suburban surroundings that have emerged with hardly any planning [...]. The potential of these attractors lies, however in their ability to articulate new forms of social and cultural relations. Given a qualitative approach, these complexes can help to structure the landscape and even, through more integrated planning strategies, play an active role in its conservation.”

The interest shown by several researchers toward commercial centers indicates the potential these knots have as attraction machines and exchangers of flows, programs and services.

9.78. Victor Gruen: Northland Shopping Center (Detroit, 1954).

9.79. Arquitectonica Intl Co.: Sawgrass Mills Shopping Center (Florida, 1988-1990).

9.80. Victor Gruen: Diagrams for a city of multiple links (in Alex Wall: “Big Buildings,” *Quaderns* no. 191, 1991 and “The car and the city: Victor Gruen in America, 1943-1962,” *Quaderns* no. 218, 1997).





"The Road",
Mall in the Urban Historic Center



If, in peri-urban shopping centers and megastores, the program continues to be fundamentally dictated by a strictly functional efficiency according to a strategic regulation of the dynamic of flows associated to them, those flows – road and pedestrian, users and goods – are the main condition of their existence, their common denominator and the only reference to a public or collective space.

The theoretical proposal **The Road (1997)**⁵⁰ by **Heidi Vander Wardt** explores those conditions – and potentials – in a radical way. Road and building merge into a single spatial circuit inserted into the historic fabric of the city.

This "built circuit" brings certain conditions of the periphery, related mainly to the configuration and the "arterial" articulation of paths, spaces and connections, into the urban center.

The proposal is based on a flexible dispositif (an encasement or complex bow), connected directly to the main intercity road, but capable of accepting also various neighboring networks with specific spatial and functional conditions.

Circuits and weavings present different levels of connection and varying layers of use. For instance, the streets of a nearby neighborhood, a nineteenth-century fabric, cross the new dispositif (its roof and/or the upper levels) foreign to its logic, but incorporated to it, connecting streets and buildings on both sides.

The resulting *urban knot* is developed as a large-scale *integrated circuit* generated by a basic road that organizes several "sub-circuits" that are inscribed in it.

The lower-level sub-circuits respond to the demands of the required program and uses. The upper levels correspond to road accesses. Between them lie the spaces for intersection and transfer.

The whole maximizes the condition of articulating layouts and distributing paths... and possible trajectories.

This new mechanism can be understood more like a relational infrastructure than like a hypothetical object-making machine. A linking trajectory and not just a traffic circuit.

The **Parkhouse/Carstadt project (Amsterdam, 1996)**, conceived by the NL team,⁵¹ considers also that condition of “knot and link” that exists between cars, cities and consumption machines in a way that is probably more blunt and direct. The project tries to solve the placement of a huge mixed-use parking lot in the middle of Amsterdam, conceiving it also as a catalyst for new urban activities. Surrounding the 19,000 square meters of land used by the parking structure, there are an additional 35,000 square meters reserved for warehouses, shops, offices, apartments, restaurants and a hotel with facilities to host conventions.

“An injection of new urban life is needed to prevent historical cities being relegated to cultural theme parks.”

The project is inserted in a dense commercial area inscribed in the historical center of the city.

“Its shops attract some 14 million visitors every year, a figure which matches the entire population of the Netherlands: 40,000 people shopping and being entertained every day. This district has the highest rate of commercial surface area in Amsterdam.”



9.82. NL archs. (Bannenberg-van Dijk-Klaasse-Linnemann): Parkhouse/Carstadt (Amsterdam, 1996).

A “knot” and “link” condition among cars, cities and consumption networks.

9.83. Twisting – spiraled and folded – movements associated to the dispositif.

Whereas, in historical commercial networks, traditional practices hinder access to most built upper levels, this proposal – because it is developed and extended “in section” – provides new accessibility to those seldom-used floors, thus fostering a decisive increase in their performance.

The proposal creates a big public “street” one kilometer long, folded on itself, and also a 19-meter-wide parallel parking ramp, rising on a 6% slope up to a maximum 30 meters high. The whole forms a continuous volume full of urban life and movement that gets tangled and “snuggled” on site, twisting and coiling in an on itself as a contortionist capable of turning infrastructure and construction into the same spatial narrative.

The movement is based on six successive operations:

1. Slope (a 3% to 6% ramp); 2. Extrusion; 3. Reflection; 4. Twisting; 5. Folding; 6. Layout.

These operations point out their condition as functional *bow* and an urban *knot* at the same time:

These dispositional trajectories refer us back to idea of braided circuits and ribbons that we mentioned at the beginning of this section, and whose structural efficiency resides precisely in that capacity to generate “screwing” processes and apply it onto possible compact (re-folded) multi-programmatic platforms in which the “full-empty” discontinuity is produced, more than in sequences (lattice-work and nets), through overlaps (meshes). In these “coiled” dynamic movements, which are expansive and intensive at the same time, we recognize other twisting processes – between spaces and times – which are characteristic of the current scenarios of mobility, where distances are measured in minutes and hours rather than in meters and kilometers. These phenomena will recall much of the research done on chronotopes, topologies, and the logics of accord and linkage which occupied a large portion of the specialized analyses produced in recent decades.

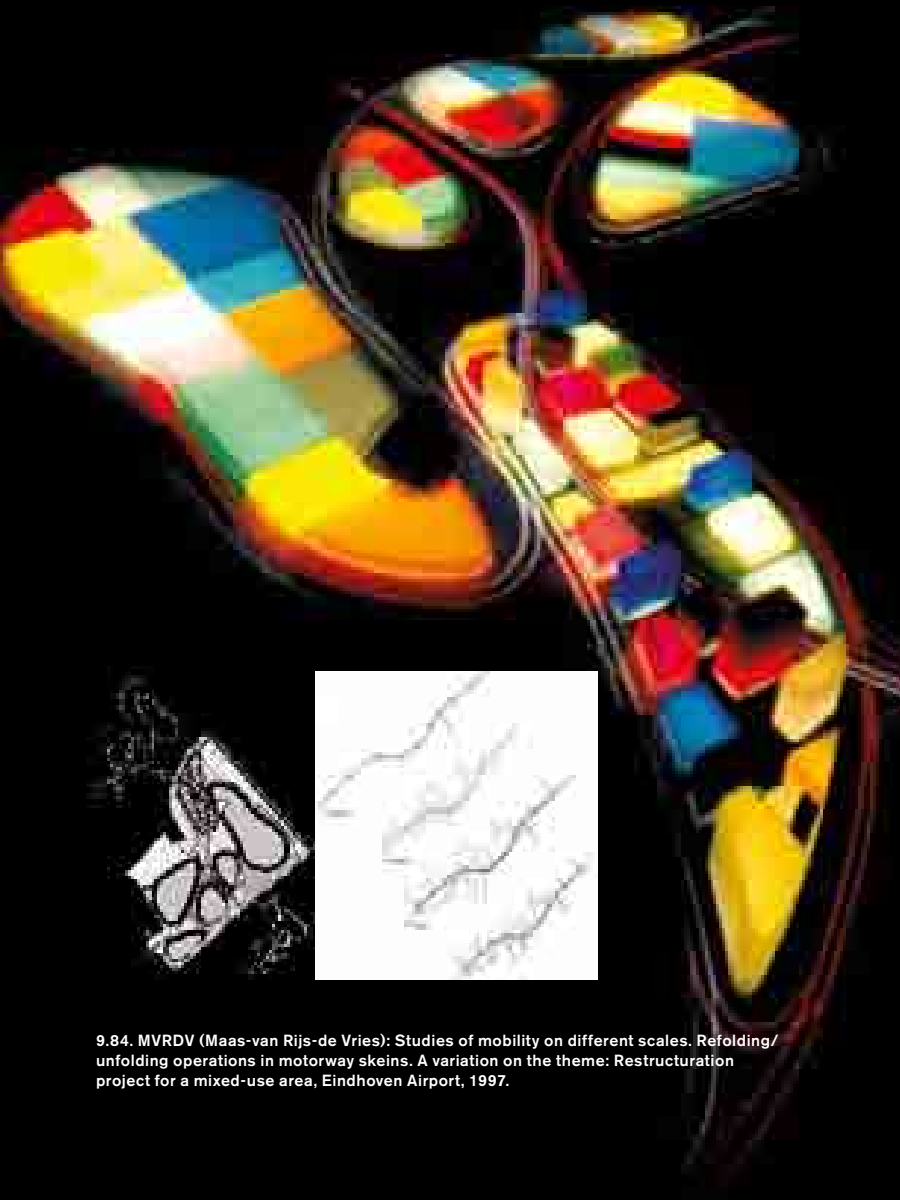
Two projects by **MVRDV** develop, in an unobtrusive way, these considerations. They are two commercial centers designed as flexible *cordonning* and an indefinite *loop*.⁵²

Both proposals belong to research conducted on the restructuring potential of nets, defined in the **Development Plan for Almere 2004**, which deals some of the questions we are considering:⁵³

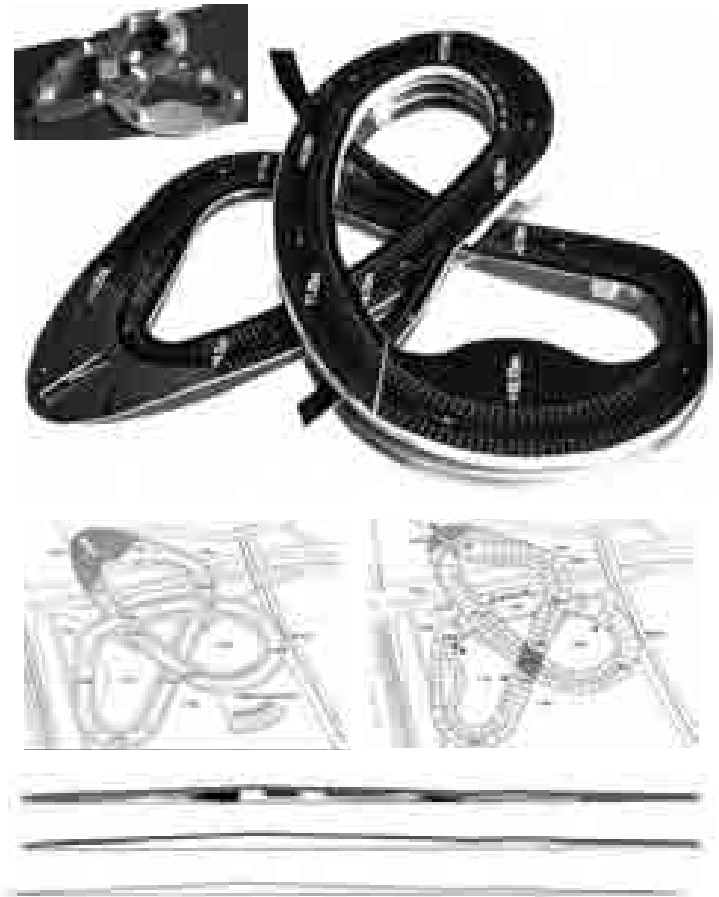
“It is a source of some surprise that the potential of high-level accessibility has scarcely been exploited in areas on and around urban expressways. Complex road junctions are in fact a stumbling block to the development of the surrounding territory.”

In this context, **Zig-Zag** and **L-Loop (1997-1998)** constitute two proposals based on an “infrastructural loop” to create a new typology for shopping centers, where maximum road traffic accessibility combines with the strategic “dissolution” of the built volume, leading to possible hybrid solutions combining traffic typologies and other, more civic or recreational, urban activities. In the **Zig-Zag proposal**, this effect is achieved by “stretching” and “elongating” the space intended for parking, like a pantograph trivet or a layered, puff pastry structure; this creates an elastic geometry, an “empty-full” combination with the potential to house all kinds of activities precisely – and paradoxically – in the large-scale “voids” (or hollows) generated in between the “folded” levels of the parking structure. Essentially, the design “traces” an ascending “street-parking lot” with varying slopes that allow for a wide range of uses in the interior.

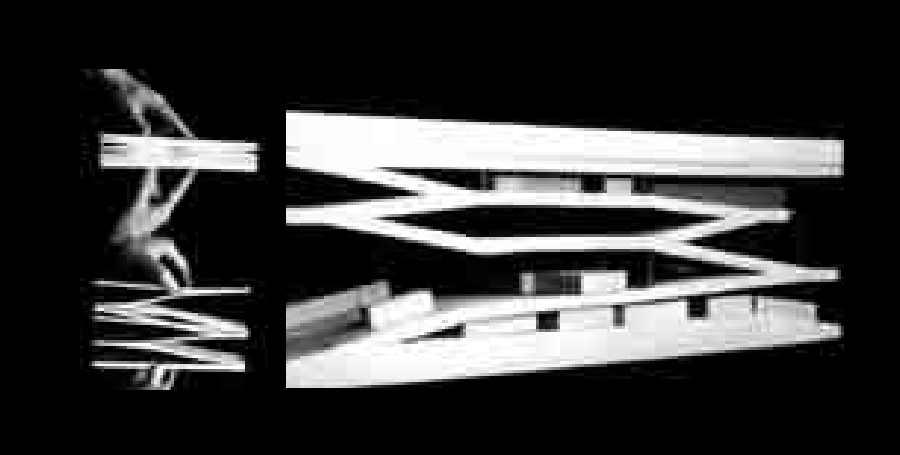
In L-Loop, the parking level is designed as an endless itinerary with a pretzel shape (or a localized *loop*) that can house and also develop several activities under its roof/road, the coiled ramp itself. On the upper level, that same refolded lane can, eventually, articulate a residential “circuit” whose development runs along the planned enclosure, thus creating a new “urban strip” which merges together “local roads”, “single-family lots” and “mixed-use spaces”.



9.84. MVRDV (Maas-van Rijs-de Vries): Studies of mobility on different scales. Refolding/unfolding operations in motorway skeins. A variation on the theme: Restructuration project for a mixed-use area, Eindhoven Airport, 1997.



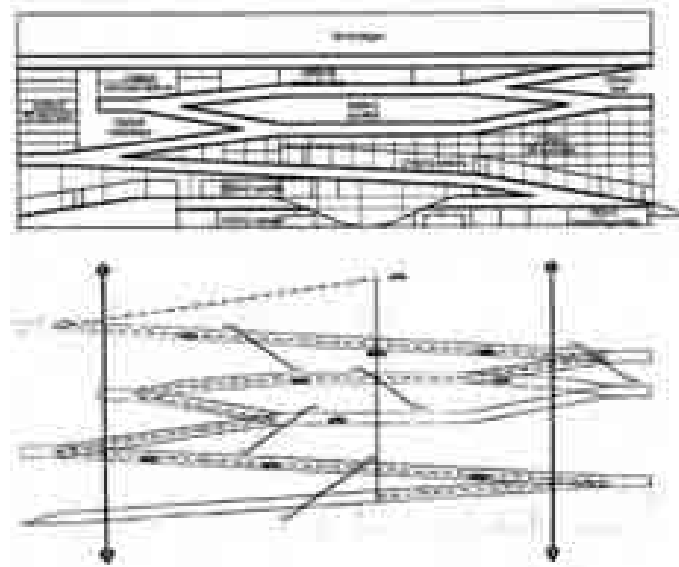
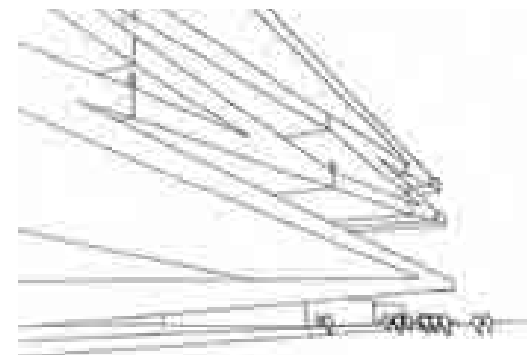
9.85. MVRDV (Maas-van Rijs-de Vries): "L-Loop". Combined link prototype. (Almere, 1996-1998). Working model. Interior floor and, at the same time, potential roof. Floor plan for parking, model floor plan and sections (in *Quaderns* no. 218, 1997). MVRDV's "L-Loop" project puts forward a new "looped" typology destined to match residential and commercial uses in certain road knots. This proposal should be inscribed in the logic of the project created by the authors for Almere XXI, where the fraying of the road skein articulated pockets of landscapes and, at different levels, also meshed and lassoed situations.



The “strip” reminds us of a Möbius strip lying on the ground. The ground sinks and, all of a sudden, comes out again. The “weight” of the slab or refolded stripe produces surprising level changes. At the bottom, at the back of the mechanism, the space produces three gullies conceived as big central courtyards destined to gather around them spaces and uses, and surrounding them, the structure develops, coiled onto itself, as a humongous bow ready to support – and articulate – commercial, infrastructural, ludic and residential programs.

The enclave of the loop – or knot – unlike a conventional construction, is not made to be recognized – to be discovered, but rather, step by step, as one moves through its successive spaces, to be crossed in a dynamic, sliding and unlimited way, as in an endless maze.

Although apparently destined to turn over itself again and again (like in a “close” path, without beginning or end), this is an open structure because it is virtually unstable and “indeterminate” in its own flexible definition, that of an irregular loop. It is, therefore, a machine designed to (re)-formulate – inside-outside, top-bottom – more than a machine for (re)production.



9.86 and 9.87. MVRDV (Maas-van Rijs-de Vries): “Zig-Zag Shopping Mall” (Almere, 1996-1998). The maximum capacity of motorized traffic combines itself with its absence – like in a Klein bottle – generating situations of “encounter” and “separation”. Stretching the parking space, like in a puff pastry structure, other activities can take place in the interstitial gaps.

XII. Cordoning/ Intertwinning: Strips and Braided Circuits **The Lingotto Building and the European Patent Office**

Accordingly, it is interesting to compare this “loops-circuits”, understood as “buildings-infrastructure”, fostering production and consumption, but also exchanges and crossbreeding, with a design as anticipatory and paradigmatic as the **Lingotto Building (Turin, 1917-1920)** by **Giacomo Mattè-Trucco**, Fiat’s big “machine” dedicated to the mass production of automobiles.⁵⁴

The building, known primarily for the big test track on the roof, a concrete strip with two straight sections, 443 meters long, tied to two cambered curbs, houses under such structure a big span of workshops and offices made out of two longitudinal bodies, 507 meters long and 24 meters wide, joined together by five jcrossing core elements and separated by four courtyards. While the two longitudinal bodies help organize the various parts of the assembly line, the cross-connection elements host the core of vertical communication, general services and rest areas. On the roof, the two straight strips and the two parabolic curbs form the continuous path of a test track for mass-produced cars, from “bottom-up”(opposite to Ford’s top-down plan). That track is what conveys the identity of the building which virtually works as a “close circuit”.



On more than one occasion, several authors have commented on the paradigmatic character of Lingotto as symbol of a rational production, “modern” mechanization and serialization.⁵⁵

Le Corbusier himself used it as reference and example of mass production, recasting it later into the design of the **Plan Obus for Algiers**, which can be considered a gigantic version of Lingotto as the “symbol and spirit of progress”.

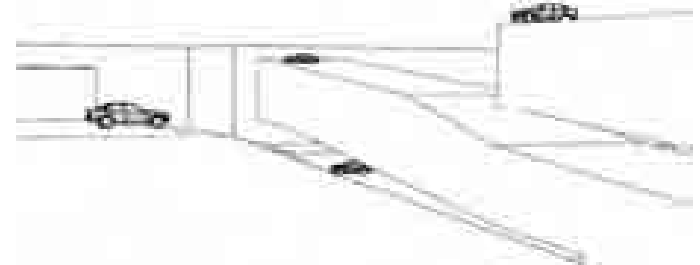
There is a certain optimistic and “progressive” epic behind Lingotto, which shows through in its introduction as a colonizing presence on a territorial scale.

However, despite the strength and power of its layout and its declared scalar ambiguity, Lingotto is not constructed as an open dispositif – a dispositional strategy – but as a fundamentally positional mechanism, where the building’s stability – and its general composition – are given priority over a “lack of predetermination” and the formal flexibility of the infrastructural aspects.

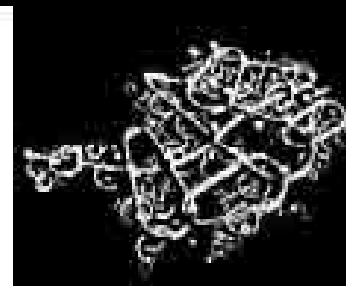
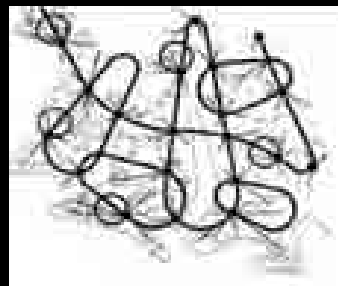
The whole takes precedence over the particular in an unambiguous and closed off manner.

Its strict symmetry, the “enclosed” treatment of the lateral ramps (which are exceptional, on the other hand), the repetition of the proportions, gives the entire piece a compact and static feeling, in which the general order trumps the individual event.

As such, the **Lingotto** is more a “building” than it is an “infrastructure”.



9.88. Giacomo Mattè: Lingotto Building. FIAT Factory (Turin, 1917-1920). Roof-Circuit
 9.89. NL archs. Buidling-Circuit (1997). Partial views of the infrastructure.



- 9.90. El Lingotto, Territorial mechanism and introduction into the landscape (archive).
 9.91, 9.92. Three details of the Lingotto roof/track.
 Archive photographs and two current images (Jordi Bernadó, photographer).
 9.93. Le Corbusier. Plan Obus (Algiers, 1930).
 9.94. Andrija Mutnjakovic & Alexander Srnc: Colonizing Machines (1965).
 Built mega-structures as overlapped circuits (in *Casabella* no. 293, 1965-1966).

It is more a machine (a proto-functional object) than a dispositif (an operative process).

Indeed, the whole does not, strictly speaking, adhere to the tenets of a looped, knotted or bowed geometry – a meshed system and, at the same time, an “open circuit”, but to a “traced” geometry and to “compositional” volume measurements, i.e., to a “closed circuit”, a mechanism – and form – complete in itself.⁵⁶

Although the Lingotto can also be seen as a quintessential icon of a possible functional “building-city” – a for manufacturing, but also a container for multiple activities (now transformed into a metropolitan mixed-use structure), its own logic is more that of a production machine (a mechanism) than an (operative) dispositif for production and linking.

To that effect, it is worth comparing its approaches with those of a more recent large-scale project with a similar iconographic power:

Willem Jan Neutelings’ European Patent Office in The Hague.

Designed as a large-scale infrastructure for internal connectivity, the new **Patent Office (The Hague, 1991)** was intended to address the organization of an extensive program embodied in what was supposed to be “the biggest office building in Europe”.⁵⁷ It was designed to be a large container intended to hold hundreds of individual offices with the potential of providing inspectors a higher degree of privacy, discretion and concentration in order to free their activities of control to the maximum.

More than a huge manufacturing machine, the building could be a huge mechanism of validation for future manufactures.

The size and complexity of the program – detailed and indeterminate at the same time – allows an elemental and versatile organization, that of a big “net” (or mesh), “interrupted” at a “determined phase” of its development.

It is intended as an open circuit – more than a close “track” – understood as a braid of roads destined to foster “circulation” among “parked” units: “cars” on the roof and “offices” in its interior.

The whole – a spatial device, which is virtually “unfinished”, capable of adopting other possible arrangements while managing future changes and expansions⁵⁸ – is structured into six “stretches” surrounded by offices (with a continuous height of three floors and a section divided into three bays) that intertwine and intersect.

The enormous program is broken down into several sections placed around fourteen interior gardens that act as empty in-betweens with the goal of ensuring that each employee enjoys – as we have pointed out – an office overlooking a “specialized” garden.

All the offices are housed in the exterior bays, while the middle bay houses services, vertical and horizontal communication cores, and other auxiliary functions, forming a kind of “band-interior street” with holes and stairs placed at irregular intervals. That “street” becomes the main artery of the building, a line of circulation duplicated on the roof, also a parking, a “strip” – or tarmac.

On it, the conception of the project is made explicitly clear. It consists of a great transited circuit whose upper level is accessed through fourteen vertical cylindrical ramps placed in the intersections that become, at the same time, the crossing and meeting points of focalized areas of activity.

Conceived as thematic parks, the fourteen central courtyards define the building and endow each section of offices with its own identity (with its themes and various colors).

Three of them contain the main reception spaces, which, open to the public, are distinguished by the unique volumes that cover them; a cone with bars and restaurants, a red paraboloid with a big conference room (a domed auditorium) and a silver tower intended to be a library.

Intruding forms, almost arbitrary in their formalization, stick out from beyond the main façade. There are also “random” pieces, inserted in the system, occasionally modifying and distorting it, enriching it at the same time.

Although the building constitutes – through its own conception and features – a noteworthy urban knot (an intersection of

circulation), its structure responds to the notion of a braid or a weaving (an intertwining tie) than a loop (a linking bond). Coiling trajectories give way to braided trajectories, where the built volume – the occupied space, the artery, the fiber – traces its own referential “mesh” (approaching a concept that is very similar to an infrastructural braid), alluding to topological models associated with the idea of a mesh organization – or string-like disposition – as a “resistant” structure (like set of holes and interlaced chains) in a comparison that refers back to the “tangle of fibers” that we have highlighted repeatedly.

Despite its size and scale, the building is never shown as a closed-off mega-structure, but as an open – “in process” – especially flexible despite its apparent consistency and strength. It becomes a net liable to grow or stop, to alter or modify itself, to receive and recycle external stimuli (colors, forms, materials, textures), “unexpected” and/or “indeterminate” things, in other words, outside their own and main “configuration”.

Therefore, this oversized “system” (like in a paradoxical play of reflections and repetitions) leads up to the same elements that fostered it (the big European communication and exchange networks).

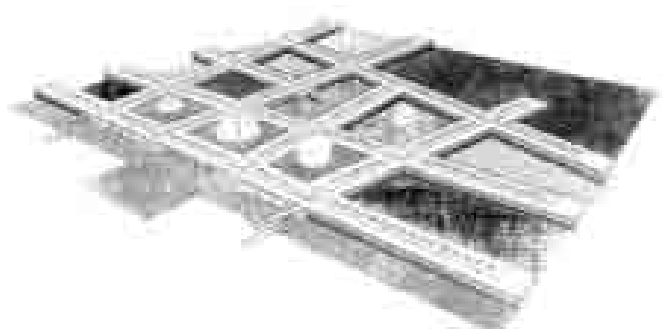
As in the case of the **Lingotto** building, the whole tries to suggest an urban infrastructure – a micro-city – destined to explicitly register its “quasi infrastructural” condition, i.e., its macro-strategic nature, that of a circuit conceived as a growing “horizontal” mesh, limited (but theoretically unlimited), in which full arteries and empty interstices configure a net architecture connected also to other nets that coexist and flow in the same territory.

In this sense, the **European Patent Office** at The Hague points out toward its predecessor, **O.M.A.’s** proposal for an **office complex in Frankfurt (1992)**, a lesser-known project.⁵⁹

Set in the middle of Europe’s largest swirling communication flows, the project was proposed, even here, as a micro-city of tertiary sector activities near the Frankfurt airport, an huge mass that gathers and curls over itself, developing its layout as concentric rings of constructions, as the alternating, successive and overlapped “layers of an onion”.

These “rings”, with variable widths and separations, allow for the design to articulate multiple and ambiguous uses, creating consecutive bands of construction and, between them, inter-sites, interstitial landscapes shaped as elongated courtyards-strips or gardens of different sizes (and appearances).

Therefore, the whole looks like a big coiling circuit, a spiral, which maximizes its appearance as an incomplete loop – open – although its own structure (because of its strict centripetal condition) hinders a more flexible development, cut off from the hierarchies of the system, understood as a possible mesh of open articulation.



9.95. Willem Jan Neutelings: European Patent Office (The Hague, 1991). The whole is designed as a braided knot.



9.96. Willem Jan Neutelings: European Patent Office (The Hague, 1991).

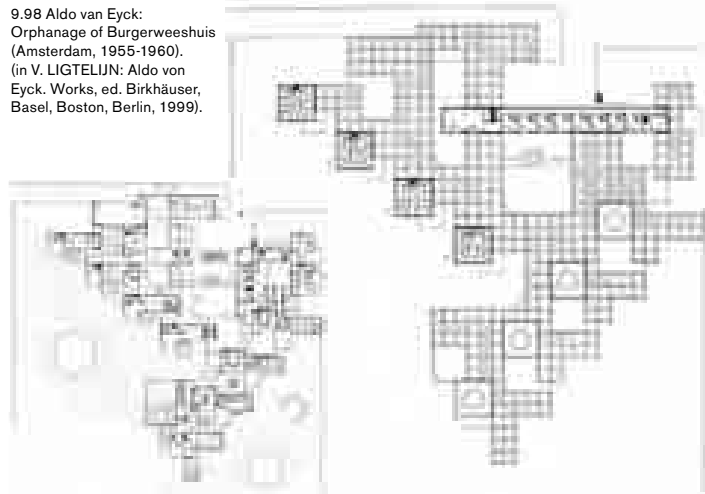
The construction – the full, the artery or the fiber – weaves its own mesh of reference adopting a strategy very close to that of the infrastructural braid and that topological idea of a stringy mesh.

9.97. OMA.-Rem Koolhaas: Office complex (Frankfurt, 1992).

The project proposes a tertiary infrastructure conceived as a large-scale strategic knot of activities that gathers and curls over itself in the shape of concentric rings.



9.98 Aldo van Eyck:
Orphanage of Burgerweeshuis
(Amsterdam, 1955-1960).
(in *V. LIGTELIJN*: Aldo van
Eyck. Works, ed. Birkhäuser,
Basel, Boston, Berlin, 1999).



XIII. Road-Building and Mat-Buildings

The subject of connectivity and the reference to a possible re-formulating “non-scalability” becomes a recurring issue in many of the dispositifs we have discussed. On the other hand, these concepts remind us of some of the theories of Team 10 based on the idea of a building as a road, street, infrastructure and as a micro-city, at the same time and, specially, as it is seen in those projects of Aldo van Eyck conducted at the beginning of the seventies and, particularly, his famous Amsterdam Orphanage (Amsterdam, 1955–1960), which, in many aspects, is related to some of the research we have already discussed.

Intended to house an educational and care facility for orphan children, the building is designed as a small village. It is conceived as a city – or town – based on a structural and constructive modular system, developed to create a base unit from which to generate the “pattern of a much more recognizable and homogeneous society” as van Eyck himself proposed.⁶⁰ Starting from his first projects, van Eyck decided to explore staggered structures capable of questioning the conventional hierarchy of space through the establishment of “eccentric centers”, proposing spaces whose cohesion was not based on the subservience to a dominant principle, but on systems of reciprocal relations.⁶¹

The orphanage tries to reconcile, both in its form as in its structure, various contradictions. According to Herman Hertzberger:

“It brings together various categories at the same time. It is house and city. Compact and polycentric, unity and diversity, palace and village. Crystalline and conchoidal, static and dynamic, contemporary and traditional.”

That potential unity in diversity, that likeness highlighted by difference, creates the solid communion among the various “units” that configure the proposal.



9.99. Candilis-Josic-Woods: Free University of Berlin, 1963-1974. (A. Guiheux: Collection d'Architecture Centre Pompidou, Paris 1998). The interest in mat-buildings connects to research on mesh structures and evolving wickerwork.

Unlike typologies based on axial runners – the common “rational” solution that relates the economy with a synoptic distribution, the orphanage plans to be a true mesh of inhabited “streets”. These streets create meanders and crossings, “netting” themselves like an irregular reticula that tries to avoid any possible radio-centric relationship, stretching or shortening itself as convenient. The use of three basic materials – glass, brick and concrete – contribute to blurring – failing to define – the differences between openness and boundaries, structure and closure, exterior and interior.

However, despite strong analogies with the dispositifs we have analyzed here, despite the intuitions it foreshadows and its emergence as an evolving and open mechanism – a modular, spatial, constructive and apparently “rhizomatic” system – there is an underlying “mega-structural” nature, rather than an “infrastructural” one, in Aldo van Eyck’s building.

It is a system, but it is an unambiguous, linear and additive one, based on the Euclidean aggregation – addition – of units (modules based on a reticular geometry), rather than on the topological concept of a “weaving” or a “flexible net” (with a varied and differentiated definition), understood as a multiplying distribution of events rather than an addition of units.

Here, the stable emplacement of the building will always stand above the matrix-like and deformable mesh arrangement.

However, fullness is, above all, that which mainly configures the geometry, and “emptiness” (despite the important role that it is beginning to have) is still a secondary “byproduct”, a servant space.

In this sense, the building relies on a positional conception – objects or built volumes located in relative positions – and, therefore, on a bonding ideological vocation, as Hertzberger pointed out:⁶²

“He continued to draw inspiration from classical tradition, but he was engaged with modernity, updating tradition by initially establishing a primary geometric organization, a code that would be expressed in a contemporary version of the classical order.”

This is a new order, but equally deterministic. This is the ideal, coherent and complete world that van Eyck himself wished for as “harmonic structure”.

It should be pointed out, however, that van Eyck already introduced combinatorial and overlap concepts, discontinuity and crossbreeding, that he brought out from exploring the internal variations inside the system (overhanging bodies, light accesses, zenithal variations, spatial focalizations).

Although the building is a structural system mostly cohesive and rationalizing, austere more than informal, purist more than hybrid, edificatory more than infrastructural, abstract more than “reactive”, it also foresees, in a remarkable way, the idea of “open device” that we have mentioned here, which, at that time, was highlighted in other parallel research.

At the end of the 1950s and throughout the 1960s, at numerous Team10 meetings, certain urban structures and systems were defined, which were based on different levels of association and identity with the milieu, with mobility and with the capacity for transformation.

In 1974, **Alison Smithson** used the term “**mat-building**” to identify a whole series of structures whose order responded – symptomatically – to three basic parameters:⁶³ interconnection, extension and evolution (patterns of association and the capacity to grow, shrink and change).

Among the works that **Alison Smithson** considered *mainstream mat-buildings*, it is worth highlighting **Aldo van Eyck’s orphanage (1957–60)** and, especially, certain projects and writings by **Candilis, Josic and Woods: Caen (1961-1962), Toulouse (1971-1973), Frankfurt (1963), the Free University of Berlin (1963-1973) and Bochum (1963). Louis Kahn’s Urban and Traffic Study for Philadelphia (1953-1955) and Le Corbusier’s Venice Hospital (1964)**, although they were the work of established “masters”, they became points of reference and the focus of debate and potential influence for the younger generation.

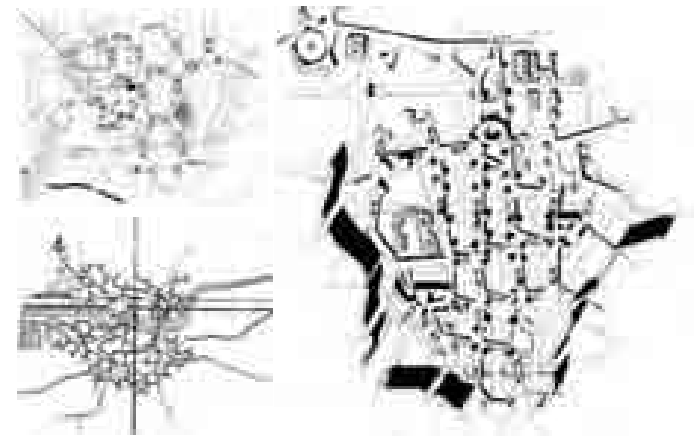
Most of those projects involved proposals for horizontal expansion, designed mainly as structural meshes inserted into

existing urban fabrics.⁶⁴

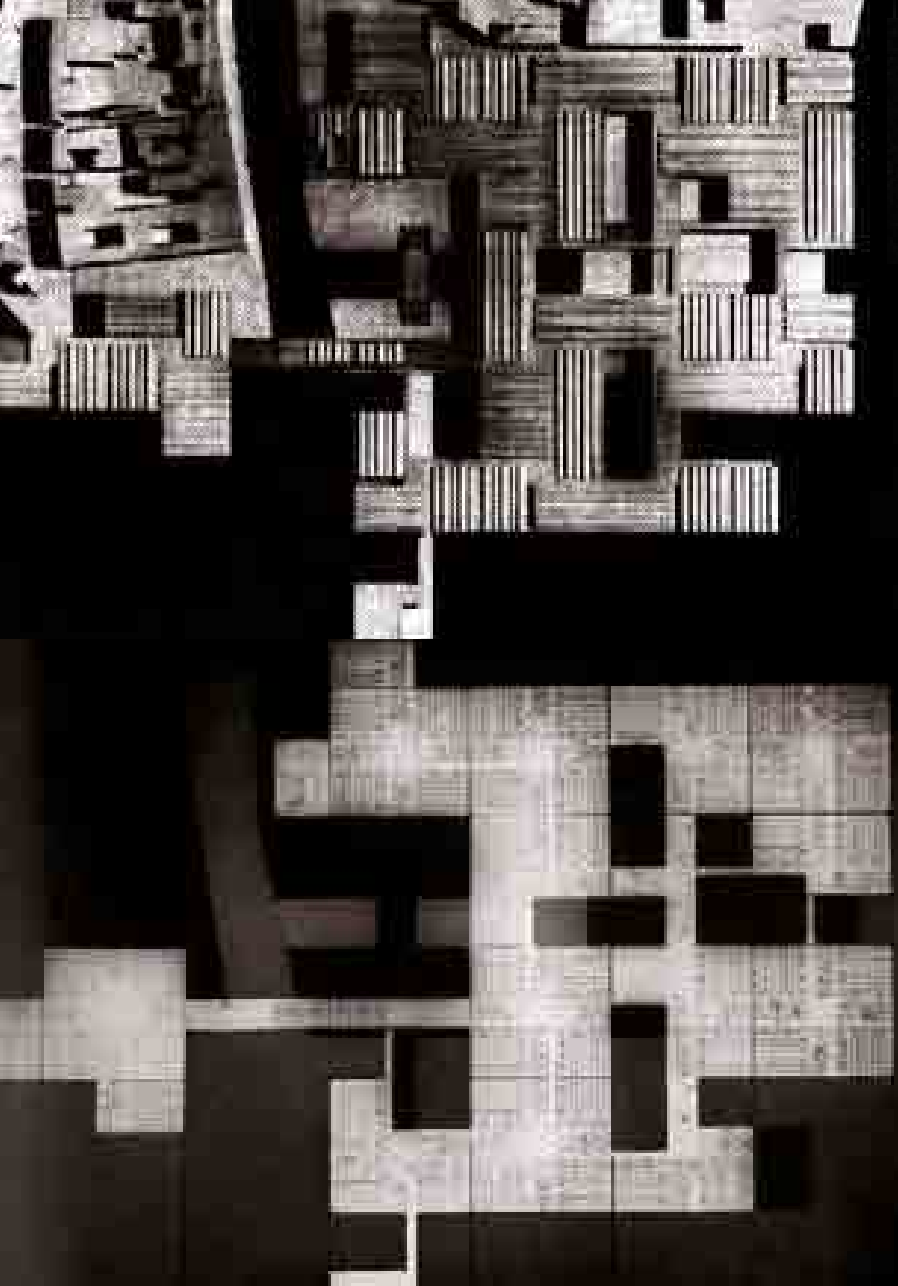
The (dis)positional structure would be developed on a foundation of spatial woven or warp-like configurations, as non-hierarchical isotropic structures (although, as José Antonio Sosa points out,⁶⁵ “[they] could be read otherwise, as perforated or hollow volumes”), where emptiness – the pore – also constitutes a fundamental part of the building.

Several authors have expressed their interest to conduct research on that subject, pointing out its contemporary relevance.

Among the more notorious examples, **Alison and Peter Smithson’s** study for the **Berlin-Hauptstadt (1957-1958)** contest should be highlighted in a unique way. It stands on top of the rectangular weave of old urban layouts and overlaps a pedestrian system destined to link, in a direct way, different emerging pieces that are used as the spatial pinpointing system of the resulting net.



9.100. and 9.101. Alison and Peter Smithson: New urban structures acting as meshed circuits. Berlin-Hauptstadt contest (Berlin, 1957-1958) and the Golden Lane Project (London, 1952).



The network produced by that pedestrian system ends up invading the city and super-occupying it in a discontinuous and porous way. Through the gaps opened by that irregular net, its “holes” and “pores”, we can begin to guess, at the bottom, the ground of the preexisting city, its old streets and transit spaces, developed, simultaneously, along its height and at the ground level.

A few years later in their proposal for the **Frankfurt City Center (1963)**, **Candilis, Josic and Woods** suggested a similar extensive and disjunctive mechanism:⁶⁶

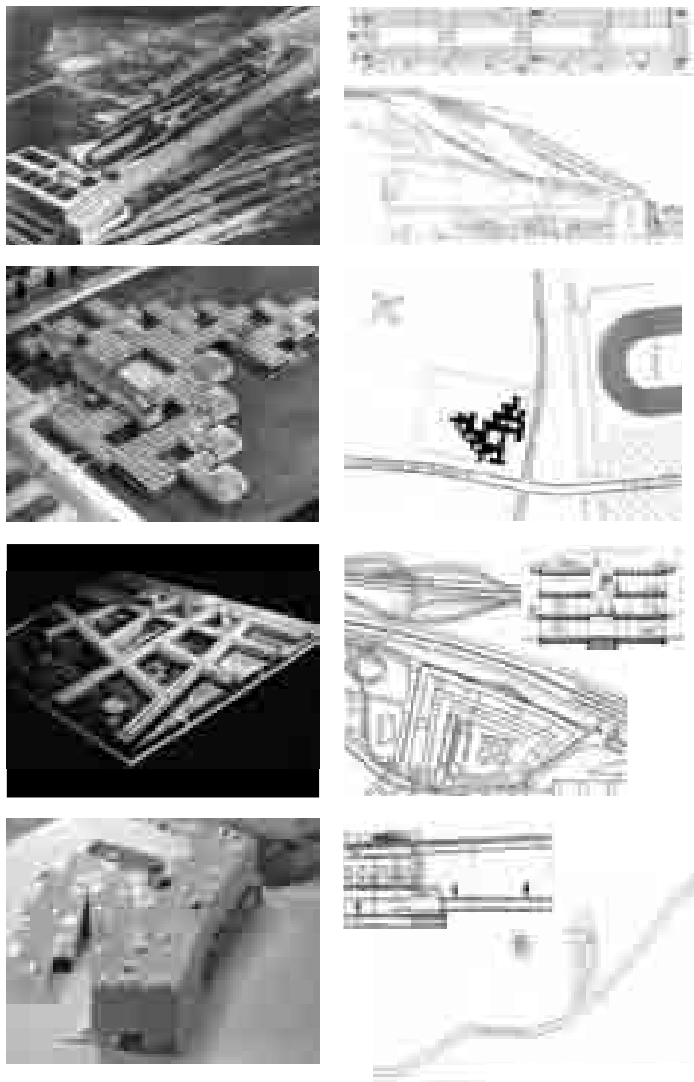
“In this instance, the scheme is stratified in a number of layers that colonize the center, continue until the river, invade the heart of the city and infiltrate the interstices of the streets, absorbing and binding in a new way the existing buildings. Against this urban proposal, Candilis, Josic and Woods with Schiedhelm and the collaboration of Prouvé in the design of external cladding elements and windows, planned the Freie Universität of Berlin of which they would only build a part (the project was finished in 1974).”

If in the most urban projects, the most characteristic aspect was the capacity of the fabric to infiltrate or contaminate the city, in this last project, in treating the building as something exempt, the characteristic principal would be the direct valuation of the empty space, of the pores as an inseparable part of the project.

“The continuous system of gardens situated at different levels, including above the roofs, is superimposed over the structure of the building; the treatment of the different planes of these surfaces becomes a hybrid in such a way with the constructed grid that you cannot understand the existence of one without the other.”

Le Corbusier's well-known proposal for the **Venice Hospital (1964)** allow us to interrelate both concepts, i.e., “emptiness” and “net”.

The hospital becomes again a braided and dendritic structure with irregular borders that blur the urban pattern, built on water, and that provide, at the same time, a simultaneous potential pattern inscribed inside it, defined by courtyards and “interwoven” gaps.



Despite its apparent aspect as latticework netting, the project belongs more to that kind of logic of bows and braided constructions that we are concerned with here than that of a dispositive for occupation based on internal shifting movements, as Sosa continues to point out:⁶⁷

“Like a mosaic or the finish to a woman’s suit, the building resolves itself by becoming more and more porous at its limits, losing itself against the lake. Equal to the other mat-building urban plans, its borders dilute themselves, as they infiltrate the urban layout. Like all the others, it possesses an indistinct structure, like that of lichen, that invades a place and develops itself in filaments or through layers of perforated stratum.”

If modern space prioritizes, in such manner, the “positional condition” of the architectural “object” – its stable, drawn, abstract and “relativistic” definition, perfectly defined by its borders, but autonomous in its spatial position – in mat-buildings, we foresee another type of more complex and open order and form, not that of objective structures, but that of porous, rhizomatic or stringy, that of diffused, extensible, uncertain borders, that of intermittent configuration.⁶⁸

The analysis of mat-buildings leads to a change of focus: whereas, in projects with a more objectual tendency, the mesh-building appears perfectly cut out against the background, now the background is situated on the building itself. Figure and ground – but also volume and surface, landscape and built volume – begin blurring their limits and blend into new dispositifs, which are sensitive to a progressively ambiguous definition of the landscape and in the landscape: that of possible “operative topographies”. We will discuss them in the following chapter.

Comparative table between four knot or braided bow organizations. The modern condition of the structural net allows for contemporary strategies that are more casual and based on flexible “mesh”, “knot” or “loop” dispositifs.

9.103. Giacomo Matté: Lingotto Building. FIAT Factory (Turin, 1917-1920).

9.104. Aldo van Eyck: Amsterdam Orphanage (Amsterdam, 1955-1960).

9.105. W. J. Neutelings: European Patent Office (The Hague, 1991) /O.M.A.: Office complex (Frankfurt, 1992).

9.106. NL.: Parkhouse/Carstadt (1996).

- 1– See MANDELBROT, Benoît: *The Fractal Geometry of Nature*, WH Freeman and Company, New York 1982.
- 2– See an approach to the “morphological” parameters of mobility in REICHOW, Hans Bernhard: *Die Autogerechte Stadt*, ed. Otto Meier Verlag, Ravensburg 1959.
- 3– See SERRATOSA, Albert: “El sistema viario y la política territorial,” *O.P.* no 35, 1996. See also YEOMAN, Andrew: “Movement, velocity, networks,” *Quaderns* no. 213, 1996, p. 168.
- 4– See FRIEDMAN, Yona: “Infrastrutture possibili,” *Casabella* 297, 1965, p. 44. See also a reference to the projects in GUIHEUX, Alain: *Collection d'Architecture du Centre Pompidou*, ed. Centre Georges Pompidou, Paris 1998, p. 112.
- 5– “The environment, the territory and certain architecture can be defined as an overlapping and intertwining set or nets or meshes that lend them meaning and which qualify certain places, generating them and artificializing them in the same way that they negate others.” See PORRAS, Fernando: “Editorial,” *BAU* no. 14, 1996.
- 6– See GAUSA, Manuel: *Housing: New Alternatives, New Systems*, ed. ACTAR, Barcelona 1998.
- 7– See MANDELBROT, Benoît: *The Fractal Geometry of Nature*, WH Freeman and Company, New York 1982.
- 8– Ibid., p. 404.
- 9– Ibid., p. 315 and 317.
- 10– See Müller, Willy: definition of “(bar)code” in *The Metapolis Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2000.
- 11– See: LUCAN, Jacques: *O.M.A.–Rem Koolhaas*, ed. Electa-Le Moniteur, Milan-Paris, 1990-98. See also details of the process in *Quaderns* no. 173, 1987, p. 72-81.
- 12– See *Quaderns* no. 211, 1996, p. 59 and *El Croquis* no. 77, 1996, p. 120-131.
- 13– See the monographic in *El Croquis* no. 71, 1995, p. 150-155.
- 14– See GAUSA Manuel: *Housing*, op. cit., pp. 112-117. See also the article: SMETS, Marcel: “Housing in the Netherlands. An enlightened response to market conditions,” *Quaderns* no. 211, 1996, p.95.
- 15– See GAUSA Manuel: *Housing*, op. cit. and *EUROPAN III* ed. European, Paris 1994, p. 124.
- 16– From the design brief. See *Quaderns* no. 211, 1996, p. 104. See also GAUSA Manuel: “Systèmes ouverts vs. compositions fermées” in *EUROPAN III (Chez soi en ville, Urbaniser les quartiers d'habitat)* ed. European, Paris 1994.
- 17– See SAUNDERS, Peter: “Nonlinearity – What It Is and Why It Matters,” in *Architectural Design* 9/10, vol. 67, Sept. Oct. 1997.
- 18– See *Quaderns* no. 211, 1996, p. 59 and the monographic in *El Croquis* no. 120-131.
- 19– See GAUSA Manuel: *Housing*, op. cit., p. 64, *Quaderns* no. 211, 1996, p.64 and *EUROPAN III (Chez soi en ville)* ed. European, Paris 1994, p. 188.
- 20– See *Quaderns* no. 211, 1996, p. 66.
- 21– For information on the project, see: *El Croquis* no.93 (Steven Holl), 1999.
- 22– See: *El Croquis* dedicated to the work by O.M.A., no. 53, 1992, pp. 86-101.
- 23– From the design brief. See *El Croquis* no. 53, 1992, p. 86.
- 24– See GAUSA Manuel: *Housing*, op. cit., pp. 122-125. See also: *Quaderns* no. 222, 1996, p. 140.
- 25– For information on the project, see: *Quaderns* no. 222, 1996, p. 136-139.

- 26– See: *Catálogo de la Bienal de Venezia*, ed. Actar, Barcelona 2000.
- 27– “The Kasbah is a clear reference: continuous stops and starts, an incomplete structure, discontinuous connectivity, an exchange of functions.” See COLL, Jaume: “Mat Building,” *CIRCO* no. 54, 1998.
- 28– An interesting perspective on Yona Friedman can be found in: *The Displaced Grid*, RIBA Architecture Centre, London 1998, p. 16. See also, the work published in GUIHEUX, Alain: *Collection d'Architecture du Centre Pompidou*, ed. Centre Georges Pompidou, Paris 1998, p. 112.
- 29– See FRIEDMAN, Yona: “Infrastrutture possibili,” *Casabella* no. 297, 1965, p.44.
- 30– See SOSA, José Antonio and GONZÁLEZ Ma. Luisa: “Vacío: deriva y captura,” Lecture given in the context of the “UIA-Barcelona 96” congress.
- 31– “Para responder a los desórdenes de la ciudad tradicional, la ciudad racional moderna (Broadacre City o Los Angeles) se iba a apoyar en la “retícula” que permitiría posicionar y orientar más isotrópamente el espacio.” See GUILLIER Pascaline: “Habiter deux utopies urbaines,” in BAUDOUÏ Rémi and PICON-LEFEBRE, Virginie: *Ville et Architecture*, ed. Parenthèses, Paris- 1993, p.135.
- 32– See JUAREZ, Antonio: “El arte de construir con agujeros,” *CIRCO* no. 39, 1996.
- 33– See GAUSA Manuel: *Housing*, op. cit., pp. 118-120 and *Quaderns* no. 211, 1996, p. 108-111.
- 34– See GAUSA, Manuel and SORIANO, Federico: definition of the term “muaré or moiré” in *The Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2000.
- 35– See Le RICOLAIS, Robert: “Introduction to the Notion of Form” in *DATA (Direction in Art, Theory and Aesthetics)*, ed. New York Graphic Society Ltd., Greenwich CN, 1968. See also JUAREZ, Antonio: “El arte de construir con agujeros (reflexiones en torno a Robert le Ricolais)” in *CIRCO* no. 39, 1996.
- 36– See NEUTELING, Willem Jan: “The Ring Culture” in *Architectural Design* no. 3/4, vol. 64, 1994 and *Quaderns* no. 213, 1996, pp. 166-167.
- 37– See GUALLART, Vicente: “Sabadell-Paris, 3.30 min via Vall d'Hebron,” *Quaderns* no.193, 1992, p. 28.
- 38– See NEUTELINGS, Willem Jan: “The Ring Culture,” *Architectural Design* no. 3/4, op. cit. See also: Nuetlings, Willem Jan. *De Ringcultuur*, Vlees en Beton vol. 10, ed. Laet-XXe-eeuws genootschap voor architectuur en stedenbouw, Mechelen 1988.
- 39– See GRUEN Victor: “Dynamic Planning for Retail Areas,” in *Harvard Business Review* vol. 32, no. 6. 1954, pp. 53-62. An interesting analysis of the work by Victor Gruen can be found in: 25– WALL, Alex: “The Car and the City: Victor Gruen in America 1943-1962,” *Quaderns* no. 218, 1997, p. 83.
- 40– See REICHOW, Hans Bernard: *Die Autogerechte Stadt*, ed. Otto Meier Verlag, Ravensburg 1959.
- 41– For information on the project, see: GEUZE, Adriaan: *West 8*, ed. 010, Rotterdam 1993.
- 42– See GAUSA-GUALLART-MULLER: *MET 01–Barcelona Metápolis*, ed Actar, Barcelona 1998.
- 43– The project won first prize ex aequo in the 25th Youth Salon, Zagreb, 1998.
- 44– See KOOLHAAS Rem: *S,M,L,XL*, ed. 010 Publishers (chapter: “Lille”) as well as the two publications on *Euroville* released by the Institut Français d'Architecture, ed. Carte Secrète, Paris 1990.
- 45– For information on the project, see: LUCAN, Jacques: *O.M.A.–Rem Koolhaas*, ed. Electa-Le Moniteur, Milan-Paris, 1990, pp. 122-127, as well as *Quaderns* no. 183, 1989, pp. 96-97 and *El Croquis* no. 53, 1992, pp. 80-85.

46– See *Quaderns* no. 212 (*Water-Land*), 1996.

47– See *Quaderns* n. 223 (*Loops*), 2000.

48– For information on the project, see: *Quaderns* no. 218 (*Mobility*), 1997, pp. 72-80.

49– See the interesting articles by WALL, Alex: "Big Buildings," *Quaderns* no. 191, 1991 pp. 40-49 and "The Car and the City: Victor Gruen in America 1943-1962," *Quaderns* no. 218, 1997, pp. 82-89.

50– See *Archiprix* 1997, ed. 010 Publishers, 1997, p. 54.

51– See a description of the project in *Quaderns* no. 218 (*Rethinking mobility*), 1997, pp. 66-71.

52– See a description of the projects in *Quaderns* no. 218 (*Rethinking mobility*), 1997, pp. 62-65 and *Arch+* no. 143 pp. 53-61.

53– See MVRDV: "Living along the highway," in *Quaderns* no. 218 (*Rethinking mobility*), 1997, p. 56.

54– See COSTA Xavier: "Lingotto: building speed," *Quaderns* no. 218 (*Rethinking mobility*) 1997, pp. 90-100 and the mention that appears in *Arch+* no. 143, 1998, pp. 53-61.

55– See BANHAM Reyner: *A Concrete Atlantis: Industrial Building and European Modern Architecture*, ed. MIT Press, Cambridge MA, 1986. See also: GIEDION Siegfried: *Mechanization Takes Command: A Contribution to Anonymous History*, ed. Oxford University Press, Oxford 1948.

56– The recent remodel of the old factory (by Renzo Piano Building Workshop) as headquarters for the Turin Fair Grounds, Conference Hall, Hotel, etc. confirms this aspect.

57– See a detailed description of the project in *Quaderns* no. 191 (*Large scale*), 1991, pp. 50-56. See also: *Willem Jan Neutelings*, ed. 010 Publishers, Rotterdam 1991.

58– See SALAZAR Jaime: "Macro-buildings: micro cities," *Quaderns* no. 191 (*Large scale*), 1991, p. 34.

59– See the mention in SALAZAR Jaime: "Macro-buildings: micro cities," op.cit., p. 35. See also LUCAN, Jacques: *O.M.A. – Rem Koolhaas*, ed. Electa-Le Moniteur, Milan-Paris, 1990.

60– See a detailed description of the project: LIGTELJN, Vincent (ed.): *Aldo van Eyck. Works*, ed. Birkhäuser, Basel-Boston-Berlin, 1999, p. 88 and van HEUVEL, Wim.: *Structuralism in Dutch Architecture*, ed. 010 Publishers, Rotterdam, 1992, p. 6 and p. 52.

61– "Centrality – characteristic of the former 'monumental' order – can still be seen in certain 'social' spaces, although it is constantly denied on the levels of both organization and composition."

See STRAUVEN, Francis: "L'orphélinat d'Aldo van Eyck," *Bulletin de l'École d'Architecture de Versailles*, 1997.

62– Ibid.

63– See SMITHSON, Alison: "How to Recognise and Read Mat-Buildings" in *Architectural Design* no. 573, Sept. 1974. Cited by SOSA, José Antonio: "Environmental Constructors: From Mat-Building to Programmatic Lava," *Quaderns* no. 220, 1998, pp. 90-100.

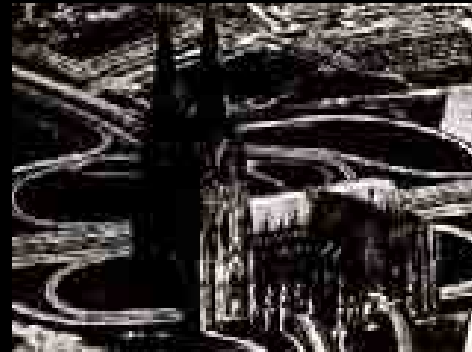
64– See COLL, Jaume: "Mat Building," *CIRCO* no. 54, 1998.

65– See SOSA, José Antonio: "Environmental Constructors: From Mat-Building to Programmatic Lava," op. cit.

66– Ibid.

67– It is worth highlighting his important contribution to the preservation of original material and documentation in the collections of the FRAC-Orléans and the Centre Pompidou.

68– See SOSA, José Antonio: "Environmental Constructors: From Mat-Building to Programmatic Lava," op. cit.



The three linked pictures
Are able to built
conceptual and
dispositional relationships
between infrastructures,
structures and fluxes;
between
networks, weavings and
inter-weavings.



9.107. Wolf Vostell:
"Vorschlag für Kölner",
Domumgebung,
Cologne, 1967 (in *Visions
urbaines*, ed. Electa,
Madrid, 1994).



9.109. F.O.A. (Foreign
Office Architects):
Contest for the Myeong-
Dong Cathedral
Urbanisation
(Seoul, 1995).

10 TOPOGRAPHIES (FOLDS) GROUNDS AND RELIEFS

Topographies-Topometries as Operative Landscapes

I. Topographies (Folds): Operative Topo-graphies/metries as Operative Landscapes

Lastly, we want to identify as operative topographies, those spatial devices conceived as and from strategic movements of folding and refolding in the territory.

Movements that define grounds and reliefs of a nearly geographic nature, developed as operative landscapes: trays or projections that heighten their condition as elastic surfaces, whether they are understood as spread out surfaces (grounds, like dynamic platforms) or as extruded surfaces (reliefs as localized enclaves).

In both cases, we are faced with the manipulation of virtual geographies, which refer to the topomorphic nature of open interstitial spaces and, lastly, to the ultimate definition of “landscape” as a physical setting and a relational environment: background, frame and construction at the same time;¹ Landscapes, then, within other landscapes. Lands in lands. The conditions in which these operative topographies move are, mainly, those of surfaces that are “shaped” by bundles of multiple forces. It is interesting to highlight the fundamentally “superficial” dimension of these *dispositifs*, as a condition that is always present, beyond their possible degree of volumetric “emergence” or “eruption”.

This “inherent superficiality” – overlapped or extruded, extended or folded, sheared or curved – is what lets us associate these dispositions with surface typologies as opposed to volumes, referring to processes of folding and shearing which lie at the origin of the topographic reliefs and the effects of which, in nature, tend not to be isolated; rather, they are combined in the form of folds, faults, furrows, trenches, overlapping, coiling, etc.² The force of the work with the idea of landscape – which is explicit here – alludes to the transfer from a viewpoint that is obsessed with the relationship between architecture and the city (the city as a stable setting, resulting from the built environment)

Aerial view of battlefield trenches during the first Gulf War (archive).

to a different outlook, which is more attuned to a new contract with nature (an obviously epic nature that is cross-bred and wild, as opposed to domestic and bucolic).³

This allows, first off, for accepting and valuing the landscape based on its spatial quality tied in with the “superficial” condition of vacant space, of what is “absent”: large-scale surfaces, ground, the “horizontal” plane; but also textures, roughness, “folds”. Beyond this initial concern for working with an instrumental “open space-landscape” (voids, wastelands, peripheral residual spaces, semi-natural areas, etc.), it is also worth considering another type of interest with more unusual, less predictable, formalizing dynamics, which artificially integrate movements – or moments – from nature: in some cases “architecturalizing” the landscape (shaping, cutting away, folding, etc.), proposing new topological forms (reliefs, membranes, plateaus, folds, trays); and in others, “landscaping” (deforming, layering, refolding, wrapping, covering) architecture in an ambiguous synergy with the strange nature that surrounds it.

Land-Arch (architecture and landscape “coupled” together): a hybrid contract with nature between two categories which were unconnected for a long time.⁴

In the same way that the city “dissolved” the borders that separated it from the former extramural territories, architectural design could also blur its outlines into new “geographies of intersection and transition”.

Operative landscapes above host landscapes.

Lands in lands, again.

First off, it would be an architecture of dense and overlapping



surfaces: “ground above other ground”.

Thick ground – “platforms”, “trays” or “plateaus”⁵ – above host grounds.

Ground that is virtually dynamic above static ground.

But other, more hybrid, encounters between architecture and nature could also be proposed: those devices configured as reliefs, enclaves or projections – fields in fields – where strategic reliefs, irregular extrusions, the uninhibited play with a manipulated nature form localized operations based on “folds” or “reliefs”.⁶

Whether they are extruded reliefs – enclaves, projections – or as sheared ground – platforms, trays – in any case, these topographies define virtual “engravings” or “eruptions” on top of the terrain; mineral landscapes where movements and flows end up being articulated “below, or above, the plane” in carved or molded surfaces “from” the ground.

Whereas the notion of ground alludes to the system’s capacity for “expansion”, the concept of relief – as a topomorphic enclave – expresses its capacity for “contraction”.

The ground responds to a tendency toward “overlapping” or “disappearance”; reliefs tend toward “embedding” or “projecting”.

In any case, they are constructed geographies more than architectures. Geographies with the potential to propose a new abstract, which is natural and artificial at the same time. Topologies – and topographies – as opposed to typologies.



10.2. Toyo Ito. “Der Vorhang des 21. Jahrhunderts,” the pressure of folds in the mountains (in *Arch* n° 119/120, 1994).

10.3. Dunes, plateaus, polders and mounds: levels of relief in a typical section of the Dutch landscape.



II. Grounds: “Carpets of Uses”

We use the term ground – plateaux or platforms – to identify those spatial *dispositifs* that are conceived as “active surfaces”, intended to maximize their “spread out”, horizontal condition. The direct work on “ground” is understood as working with a manipulated, “architecturalized”.⁷

A shaped void, where the program is not developed based on the preferential configuration of the built volume in elevation – architecture as construction – but based on the re-structuring of the horizontal dimension.

Ground, then, as platforms, i.e., as programmatic trays or plateaus.

Magmas and fluctuations, trenches and furrows, dunes and basins, etc. describe topomorphic manifestations of a possible artificial geography, which is not far removed – in its spatial images – from a more natural one.

Fissures, tears, cracks, but also waves and fluctuations both refer to irregular distributions created on surfaces of deformation and creasing.

We pointed out this “artificial landscape” aspect of the spatial devices we are concerned with here: surfaces that are essentially fluctuating and scored at the same time.⁸

Made up of bundles of ebb and flow, forces and tensions, currents and horizons.

It is worth emphasizing the essentially “superficial” nature – overlapping or extruded, spread out or curving – of this type of ground, which allows for associating them with topographies rather than volumes.

Topographies where folds and pleats, rips and tears, cuts and clippings.

This possible pseudo-natural or “naturartificial” character of these fundamentally planar and decisively synthetic geographies

Operativized as spontaneous playing fields.

10.4. Margherita Spilutini, photographer: Glasgow, 1993.

10.5. Santi Caleca, photographer: Cairo, 1990.

10.6. Jordi Bernadó, photographer. Ciutat Meridiana, Barcelona, 1994.



– because they are artificial, but also because they are “condensers” of varying demands – allows for proposing the possible operative potential of a new type of “relief”, overlying and/or overlapping in and with a pre-existing landscape.

If we imagine the surfaces of the terrain (and the territory) like the pavement in certain living rooms, punctuated with colorful rugs with different motifs, we can imagine possible “architectures” overlapping and/or sliding on the landscape, conceived as virtual programmatic matting: mats of uses. “Thick” ground, “dense” ground, “solid” ground, above open receptive grounds. Lands in lands.

The exploration of the surface of the ground appears, then, as the most paradigmatic component of this possible topomorphic order, which, in effect, is not far removed from the topological. The enormous interest in a possible instrumentalized landscape, so common in contemporary architectural discussion, in fact constitutes an unequivocal sign of a progressive distrust of the classic relationships between building (as a dominant volume) and ground (as a solid foundation); i.e., toward the conventional definition of ground as a mere supportive, fixed, limited, stable and homogeneous “base”.⁹

To paraphrase some of the reflections expressed in the mid-1990s by Alejandro Zaera,¹⁰ the term landscape was interesting then, understood in a broader sense: as a category for a possible – topographic and topological – operative system and not as a category for a “non-built” medium; an “active platform” rather than an “inherent location”.



10.7. Actar Arquitectura (Gausa-Gelpi-Pérez-Raveau-Santos): Operative Topographies (1998-2000).

10.8. Diagram/ideogram for the new Mallorca fairground, 1999.

III. Reformulating the Ground: Work by F.O.A.

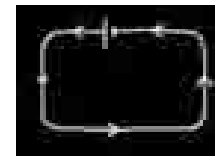
It was most probably the paradigmatic research and reflections undertaken by the **F.O.A. (Foreign Office Architects)** team, led by **Alejandro Zaera** and **Farshid Moussavi**, which delved most rigorously into the potential of working with the ground, understood as an operative device and not an isolated location. In their text, "Reformulating the Ground"¹¹ Zaera and Moussavi proposed:

"While a figure only exists within a background field, an architecture is always framed by the ground it occupies: it is the ground in its broader sense that allows us to recognise the traits of architecture as a figure."

"But our surface projects, rather than the absence of the ground, are about its redefinition, and about the construction of a series of techniques: a new discipline of the ground. [...] The ambiguity between the surface and the space, between the two-dimensional and the three-dimensional is perhaps one of the constants in these projects. [...] A second strategy is the ambiguity between the ground and the envelope. Rather than addressing the two elements in the classical opposition, we explore the indetermination between them."

Architecture is no longer presented as a functionally "active" vertical volumetric entity that is built above a flat surface, the ground, which is horizontal and essentially "passive".

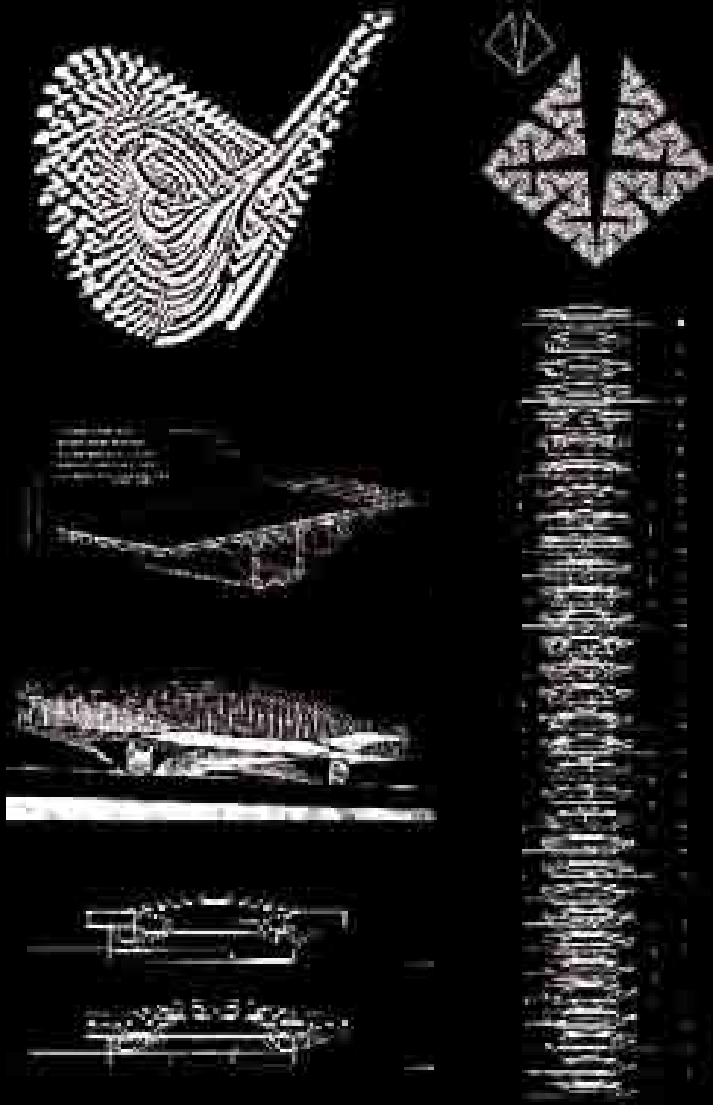
On the contrary, the ground becomes a (re)active surface: a plane built as a landscape in transformation from which architecture "emerges" – "appears" and/or "reappears" – as an unpredictable and fluctuating figure.



10.9. FOA: Yokohama Ferry Terminal competition, 1996. Model.

10.10. Manta ray gills.

10.11. Diagram of a solenoid (in no. 212, 1996).



It is in this sense that we use the term ground (landscape and topography) as the potential for a possible operative system and not as a category for a defined context. A (virtually dynamic) "situation", rather than and (implicitly static) "site".

Understood as laminar and/or surface structures, defined by "families" of folds, in overlapping sheets, or as trajectories of fluctuation, of ebb and flow, many of the "active grounds" defined by F.O.A. in their day referred to a systematic generation of form conceived based on the elastic deformation of surfaces, similarly to what happen in certain organic structures related to the exchange of fluids.

This possible work with fluctuating membranes, which – as in the case of certain gilled organisms – pull open or fold in strategic points (through cuts, cracks or gills), demonstrates the system's capacity for topological deformation, which aids in the processing of dynamic flows, based on local expansion or elongation, folding or refolding, of the overall structure.

The characteristics of this "new ground" can be summarized in the fundamentally "operative" and "(re)active" (relational and active) condition of such structures.

The can be defined based on the contemporary – Deleuzian – use of the word plateau: "platform", but also "tray" (or "mesa"), which maintains a closer relationship with the concept of an operative system – or milieu – than with the classic acception of "base".

Like the "mille-feuilles" platforms proposed by Deleuze, this operative ground can, in fact, be considered as a multi-layered structure, which induces flow.¹²

Solenoids, in the authors' terms, with the potential to drive and intensify contemporary urban energy.

Reliefs between scales in the initial structural device for the Yokohama terminal.

10.12. Lorenz Attractor // 10.12. Branching "pulmonary" framework generated by fractal self-similarity (MANDELBROT:)

10.13, 10.14 and 10.15. FOA: , 1996. Building component, perspective section, basic section and variations.

Platforms that are like built ground on the ground itself – in a more “geostrategic” sense than a “metaphoric” one – and also mechanisms, with a driving and generative efficiency, ambiguously developed between the public and the private, the geographic and the architectural.

The paradigmatic design for the **Yokohama Ferry Terminal (1995)** perfectly illustrates this desire for mediation between material and flow. The concept of *ni-wa-minato* – the proposal motto – suggests this intermediate vocation between garden and port, and it demonstrates the cross-bred nature of the proposal mechanism: a “mineralized” fluid on top of a liquid fluid.¹³

An artificial landscape on top of a natural landscape.

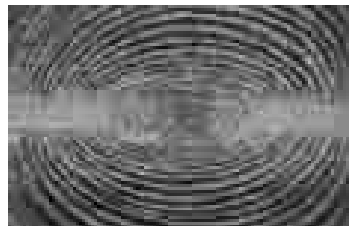
A linking artefact, a transfer, like a transportation interchange but also like and unexpected “intersection”, between open space and a dense and functional void.

Between landscape, architecture and flow (surface, volume and line).

A hybrid device, generated between the system of the city’s public spaces and the management of the flow of passengers.

The proposal is essentially defined as one more ground in the city, which is “connected” to it – with hardly any interruptions; but it also accepts the condition of circuit and knot as a crossroad, which channels and catalyzes movements and exchange: a large folded and continuous surface that is transformed into “infrastructure” and “landscape” at the same time, with the potential to “convey”, “vectorize” and “manipulate” the maritime and urban tensions of the place, which are intentionally “a-territorialized”, or better yet, “trans-territorialized”.

10.16. F.O.A. (Foreign Office Architects; Zaera-Moussavi):
Yokohama Ferry Terminal
competition, 1996.
(Project development)
Structural plan as a topographic
plateau.



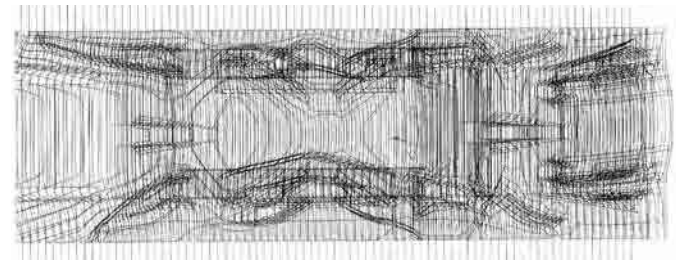
10.17. Magnetic field.

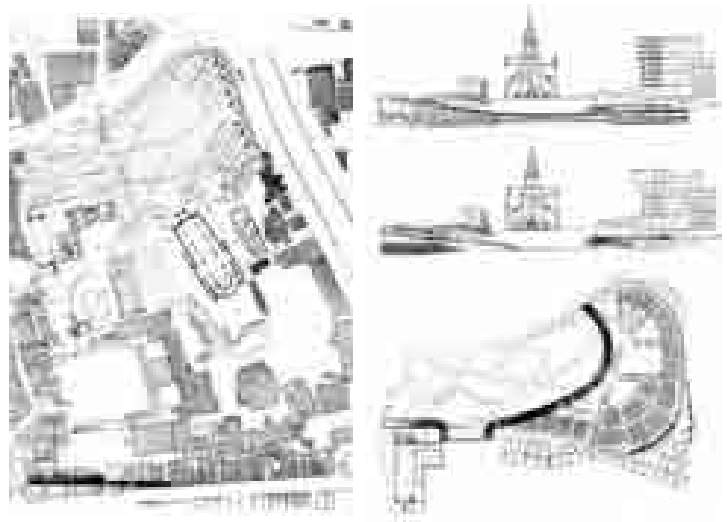
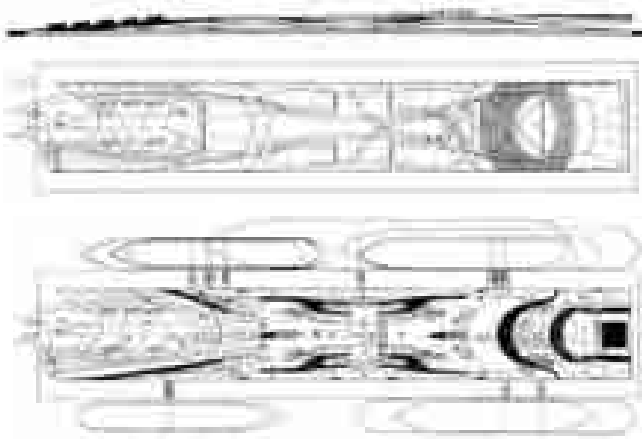
This dispositif is especially *glocal*, capable of referring to abstract logics of configuration (the generative system itself) and to generic situations in the city (voids) while also “vibrating” – entering into a non-transferrable resonance and synergy with the place, as a specific “field” of forces.

In this sense, it is interesting to highlight the investigation of the concept of “scalar relief”, which is collected and tested by the structural device initially proposed for Yokohama: between the prototype of the structural component, the basic section (and its subsequent sequence of fluctuations) and even the organization in plan, we can see the same multi-layered “logic of folds”, which is used recursively in this constant scalar leap between the local and the global sphere.

While the conceptual precision and the explicit definition of the proposal made the design for Yokohama into a contemporary icon (and a reference point in the investigation of a continuous ground surface, the generation of complex geometries, and the notion of a “dynamic field”), it was a different project – the restructuring of the surroundings of the **Myeongdong cathedral (Seoul, 1995)**¹⁴ – which let F.O.A. show the “reactive” capacity of the device with more programmatic intentionality – now “infiltrated” within the structure of the city itself – by using a double mechanism of incorporation and expansion of the urban activities inside and the extension or prolongation of the adjoining public space on the building’s roof.

A magma that is both relational and infrastructural at the same time. Both in the case of **Yokohama** and **Myeongdong**, the intervention extends out to the limits of the available territory, such that object





F.O.A. (Zaera-Moussavi): Yokohama Ferry Terminal competition, 1996.

10.18. View of the proposal, general plans of the project and view of the initial stages (Jordi Bernadó, photographer, in E. BRU: , Barcelona, 1997).

F.O.A. (Zaera-Moussavi): Surroundings of the Myeongdong cathedral (Seoul, 1995).

10.19. Overview. Site plan and general details.

and frame, “figure and ground” blend together again, giving the project its characteristic fluid image:¹⁵

“A type of foam appears to flow out of the cathedral and extend around it, invading, flush with the ground, part of the urban fabric.”

It is revealing to compare the Seoul project with the aforementioned project by **Candilis, Josic and Woods** for Frankfurt (see the previous chapter): in the Seoul proposal, the mat concept definitively loses its simply “terminological” category, becoming a truly “woven” ground, receptive to variable activities.

The idea is no longer just to propose a “macro” and “supra” structural intervention, on top of which experiments with different traffic patterns and routes can be conducted, but rather an “infra” structural extension (and reformulation, too) of the city’s surfaces that join together and infiltrate the place, resonating with it, recording and recognizing new and old relationships between different objects based on the definition of a waving and vibrating membrane of activity – a “reactant” – which expands and contracts between the gaps and “faced with the void”.

“In these three mentioned projects, as in other contemporary ones, the concepts which propelled the rupture of the binomial relationship between figure-ground or architecture-place, seem to carry themselves to limits unimagined beforehand. The limits of the project have been dissolved; the building takes root in the city through its flows and activities; the façades lose their edge condition by simultaneously being active surfaces, the ground plane loses its stratified and parallel organization by including [...] the oblique line condition, which conveys the spatial continuity.”

Although later investigations by **F.O.A.** tended to approach to idea of folded ground beyond this fundamentally horizontal dimension, as flexible platforms of three-dimensional folding and unfolding, the projects for Yokohama and Seoul explicitly reveal this initial manifestation of the ground or platforms as magmatic and programmatic membranes.¹⁶ Carpets of use and active fluctuations in a localized framework.¹⁷

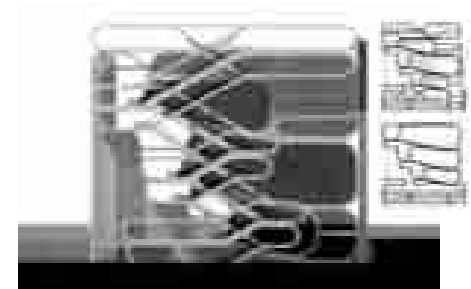
10.20. F.O.A.: Azadi multiplex cinema, (Teheran, 1996). Operative section.

“The question of the frame, the limits of the ground, emerges as one of the most characteristic techniques in this new redefinition of the ground.

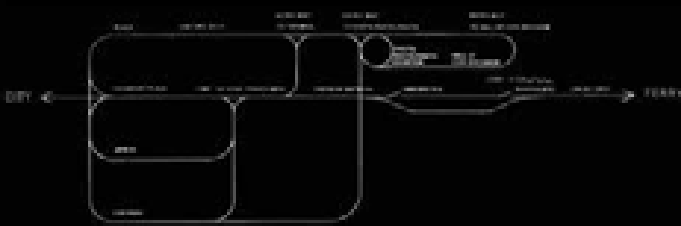
In other words, as an architectural problem, In Myeong-Dong, for example, the strategy was to merge the new ground with the existing ground, so that the limits of the object would be unrecognizable. In Yokohama, the edges appeared defined by the lineup of the plot, as though the project was one piece of a big cake. The problem lies in the development of a possible strategy for approaching the limit condition, when the design should remain conceptually limitless.”

The contrasted readings of the two projects by **F.O.A.** and **O.M.A.** for **Yokohama** allow for comparing the two proposals and verifying the efficacy of a shared logic of “multi-layered” definition. **O.M.A.’s** elastic platforms explore an avenue for action based on the layering of activities and uses, which the later project by **F.O.A.** takes up and makes explicit based on the layered management of ground and flows.

We are referring to strategic options and tactical decisions combined in specific locations, but, overall, to movements of fluctuation, ebb and flow, understood as – and based on – localized topomorphic systems, with a virtually evolving configuration, conceived from movements of “animation” and horizontal “expansion” “of” and “in” space.



10.21 FOA (Foreign Office Architects; Zaera-Moussavi): Ferry terminal project (Yokohama, 1996). Details of the model and flow diagram.



Bringing these images together lets us compare the two designs for Yokohama, by FOA and O.M.A., confirming the same multi-layered dispositional logic which informs both proposals.

10.21. FOA (Foreign Office Architects; Zaera-Moussavi): Ferry terminal project (Yokohama, 1996). Details of the model and flow diagram.

10.22 OMA-Rem Koolhaas: Urban restructuring project (Yokohama, 1992). Details of the model and diagram of uses.



IV. Simulated Topographies/Active topographies/ Liaison topographies

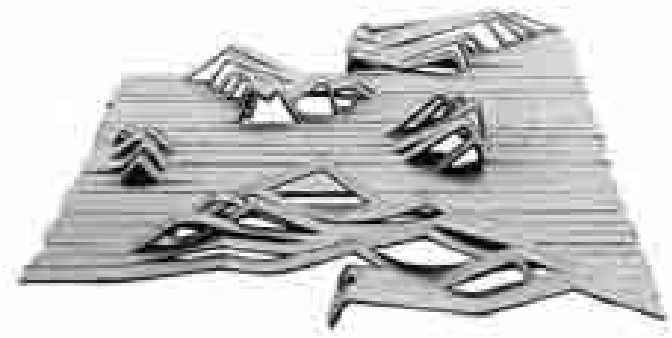
A similar avenue of action was tried out by **Kelly Shannon** in her **Simulated Topographies** projects,¹⁸ where architectural program ends up being articulated through the use of carved platforms made from inclined planes in movement: fluctuating ground that creates singular (definitively “a-tectonic”) landscapes based on play – and combinations – between ramps designed to pull apart the surfaces, creating strategic filtrations of light. Here as well, the particular “superficial” manipulation of the existing infrastructures generates new spatial readings, which challenge conventional interpretations of the ground plane through the definitions of new types of mechanisms/landscape based on the (inter)relation between the general and the specific, the public and the private. Spaces of “relation” and spaces of “production”, as the author herself points out:¹⁹

“‘Landscape’ is, in these projects, a term that is always ‘metaphorically’ present, to the extent that it blends with the existing structure while constantly and ‘literally’ renewing it, by working with folded surfaces, ramps, sheared planes, etc.”

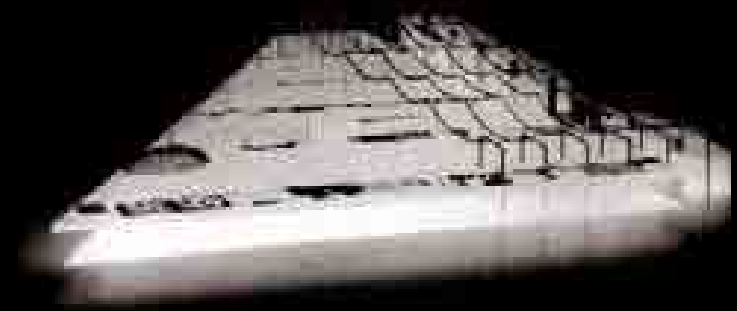
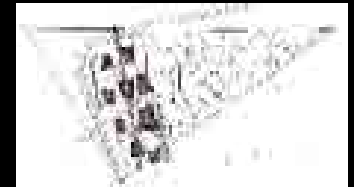
In **Topographical Overpass (Atlanta, 1994)**, the proposal reorganizes two elevated walkways above the interstate in Atlanta, creating an urban public landscape. The new ground, consisting of geometric folds, directs the dynamic of the raised walkway, as well as vehicle traffic, and protects certain areas reserved for collective uses. This creates what the author calls a “programmatically instability”, fostered by the fact that specific zones or typological forms are not designated for particular uses (roads and public spaces); the proposal creates “platforms to promote urban leisure”, which are both flexible, because they can be appropriated, and indeterminate, because their definition is open.

In **Active Topos (Zeebrugereiland, 1993)**, the proposal approaches the coexistence between a complex and dense program – a multiplex movie theater – and its transformation into public land, again: landscape, infrastructural topography, urban parkland, and leisure complex all at the same time. The system forms a surface that is broken up by furrows and peaks, organized using a sequence of juxtaposed strips, whose folds, breaks and movements allow for directing pedestrian traffic, creating a layered topography of reliefs and interstitial cracks, proposed as a way to let in light and provide access to the lower levels, or as emergent built volumes.²⁰

“Intertwining different three-dimensional elements creates hybridizations: programs that are public-private, new-old, global-local, traditional-innovative and landscape-architecture encounters. The manipulation of ground promotes vertical vibrations in horizontal spaces while defining new densities and an expanded ‘public sphere’. The topographies shape new active areas; the programs and the forms become the foundation for spatial and temporal relations; they attract ‘difference’. The flow and ebb of spaces and times restructure and renew the landscape with flexibility and topographical mobility.”



10.23. K. Shannon: Topographical Overpass (Atlanta, 1994). Maqueta.



10.23. K. Shannon: *Topographical Overpass* (Atlanta, 1994). Model.
Three examples of "build landscapes", understood as "strong ground", where building, landscape and infrastructure (twinning, mesh, nets and ground, all at once) come together in layered weavings, associated with the concept of proposed by Florian Beigel.

10.24. K. Shannon: *Multiplex platforms* (Zeebruggerelland, 1993).

10.25. Claude Parent: ca.1970. Model.

10.26. Florian Beigel: . *Electronic matting* (Nara, 1996).

The ambiguous “appearance/disappearance” of the architectural object is the result of this “topological action” which dissolves figure and ground into a single continuous system of inclined planes, like a multiform network, juxtaposing different systems of movement (stairs, ramps and escalators) in a mesh of circuits and route, on ramps, which continually interweave built and unbuilt spaces.

The notion of a *built landscape* is, again, the underlying conceptual foundation for these strategies. Open space – associated with the notions of field, fabric or layout – is no longer considered to be subordinate to occupied space; rather it is a potential that has suddenly been transformed into a virtual “printing plate” linked with a “continuous network of interchangeable programs”.²¹

The design of a “strong ground” is the support which lends consistency to possible developments in certain semi-natural areas of the city.

Atypical open spaces, with a strong sensory value, can be valued and “brought together” using “activity grafts”, demonstrated as possible, alternative, “artificial landscapes”, contrasted with pseudo-natural or simply residual ones, which characterize most “edges”, “margins” or “intersites” in cities. Both in the case of **F.O.A.** and in the case of **Kelly Shannon**, the research developed alludes to this fusion – more than an articulation – between building, landscape and infrastructure, combining the notions of twinning, mesh, knot and ground at the same time.

In this sense, the allusion to carpets, mats, and even the reference to mat-buildings as meshed fabrics or porous weavings is not unwarranted, and it connects with the concept of landscape, which Florian Beigel proposes:²²



“Buildings the define landscape can be seen as a fabric, a fabric of landbuildings or topographical buildings, just as the landscape can be seen as a tapestry. In the context of the city such a fabric could take the form of urban mats. This fabric is composed of what Alison and Peter Smithson called mat buildings. It is a mixed-use horizontal building fabric, a vertical compression of use layers, so to speak. [...] Exciting possibilities for new urban topographies arise that could intensify and differentiate communal space in the city.”

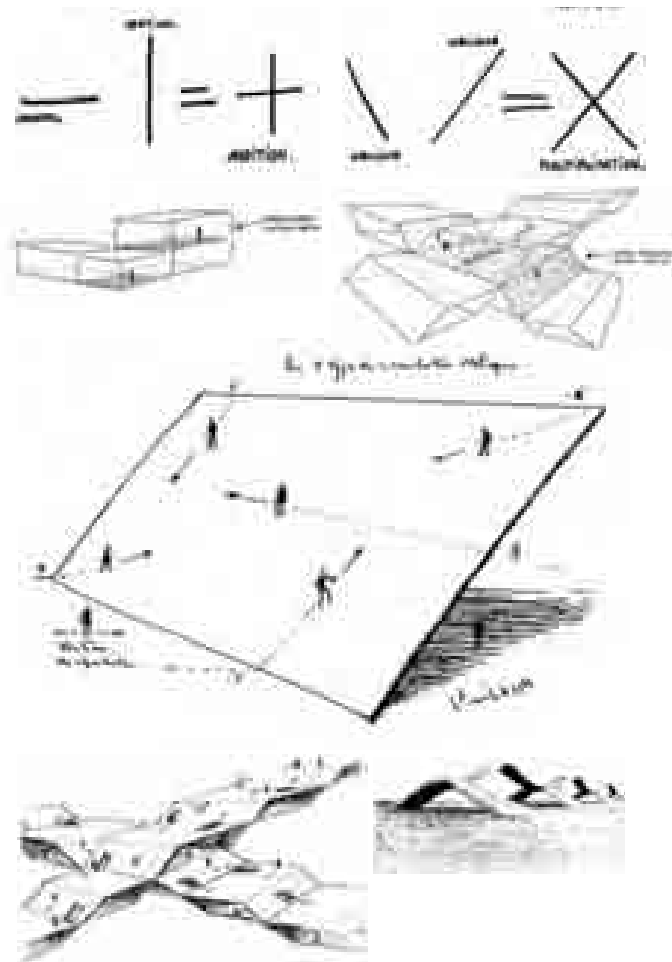
This capacity for topographical “relationships” – *liaison* – is amazingly in tune with many of the proposals tested by **Claude Parent** and **Paul Virilio** at the beginning of the 1970s. In fact, beginning in 1963, Parent and Virilio developed an interesting theoretical collaboration on aspects of architecture and urban planning, centered on the **Espace Group** and the **Paris-Parallèle studio**, in collaboration with **André Bloc**.

Their work was mainly directed toward researching mechanisms based on overlapping and inset planes, broken up volumes and inclined surfaces, as an avenue for action to achieve “active functional ground” in order to promote visual relationships (“embracing horizons”) and links of connection (“transferring actions”). Their research delved mainly into the concept of mediation: *liaison*. The internal and external relationships between planes refers, in turn, to the notions of instability and imbalance taken up by Parent and Virilio in their theoretical reflections, contrasted with the orthogonal aesthetics and statics commonly associated with the Modern movement: ²³

“The oblique begins and never ends; in no place; with no obstacles.”

Their “**Villes Ponts**” are the most eloquent manifestation of such strategies.

They leave behind the straight-line doctrines of the Modern Movement – “heavy like structural cages” – as well as Mies and his frameworks in steel and concrete, and substitute verticality and partition with inclines and accessibility.



10.27. Claude Parent with Paul Virilio.

Manifesto-diagrams used to illustrate reflections on 10.28. BRU Eduard: "Vall d'Hebron: A new landscape," no. 193, 1992, p. 48.

The different proposals are articulated around varied spatial developments materialized in different series based on sets of ramps and inclined planes, which emerge from the ground and adapt to the specific conditions; because of their oblique angles and their ubiquity, they bring together landscape, freedom and movement in one dynamic dispositif, which "supports contemporary mobility". The goal of these investigations is an architecture that:

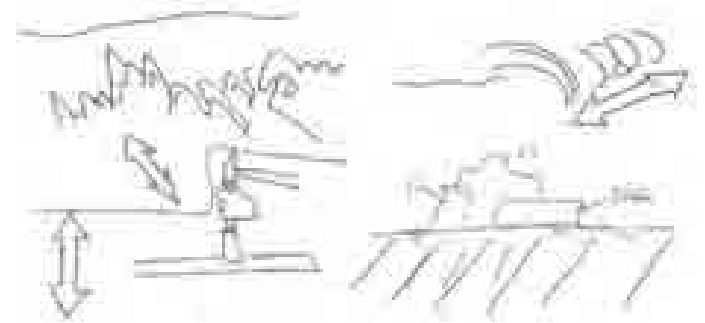
"Seems to be in movement, that breaks up the landscape, where your eye moves constantly from one place to another".

Without volumetric interruptions.

Gliding the spaces over a relational "field".

The link that is proposed in these studies, in any case, is more *kinesthetic* than infrastructural, more perceptive than connective, more abstract than flexible.

However, the surprisingly daring character of the proposals now emerges with renewed interest.



"Los proyectos de Miralles, Sunyer y el mío entienden, según las tres dimensiones del espacio y tres acciones diferentes, los desniveles del Plan director:

- Miralles escarba en sentido "mar-montaña", imitando movimientos naturales y animales.
- Sunyer establece fallas, movimientos verticales a medio camino entre lo que es natural y los bancales artificiales.
- Yo corto la montaña, en sentido paralelo a mar y montaña, por la acción de las direcciones de piezas mecánicas. Son trenes detenidos en su paso que establecen direcciones horizontales sobre un plano inclinado".

10.28. BRU Eduard: "Vall d'Hebron: nuevo paisaje" en *Quaderns* n° 193, 1992, p. 48.



V. Groundscrapers

It might have been the coinciding voices of Eduard Bru and Rem Koolhaas at the International Symposium on Contemporary European Architecture (Barcelona, 1987) who first pointed out the latent quality of the urban void as an “instrumental scenario”, as a possible “operative *topos*”, which could be revitalized with new treatments and activities.²⁴

“Sometimes I pride myself on being the first person to speak of the ‘urban void’ as a problem of the present-day city. [...]”

It is a terminology that has spread, because ‘void’ is almost the last word available to describe this kind of space. If we do not wish to occupy this kind of residual area with the typical catalogue pieces [...], what we must do is invent new spaces and new uses. Or, rather than invent them, accept them.”

Both of these intentions were made clear by **Eduard Bru** himself in his design for the **Vall d’Hebron Park (OAS, 1992)**²⁵, a triangle covering 37 hectares, bordered by Barcelona’s second ring road, and intended to bring together green areas with sports and leisure activities, based on a sequence of platforms to weave together the enclosure “adopting” the specificities of the program and “adapting” to the contingencies of the terrain.

The design tries out a possible “(topo)functional colonization of the (infra)structural landscape” based on new intervention models where the old desire for “composing” and “ordering” space is replaced by less “practiced” relationships, which are derived from an effective and subtle relationship with the place, founded on “soft caresses and strong decisions”.

These actions can organize the terrain using sequential referential guidelines, marking routes and defining outlines, highlighting certain areas, and camouflaging others; in short, alluding to the conductive, connective and perceptive nature of the landscape: a horizontal perspective – as opposed to the vertical perspective of traditional urban planning planimetrics, where all scales coexist at once, from the largest in the foreground to the smallest on the horizon.

10.29. Eduard Bru-OAS: Parc de la Vall d’Hebron (Barcelona, 1992).

Landscape, void, open space, then, merely construct expressions of the same reality: that of an “open” space that is principally “horizontalizing”, understood not as “green areas” (landscaped or natural), but as an active (hyper)surface: a “modelled” (natural and artificial) platform for uses; an operative topography (ground or relief).

In that sense, it is worth mentioning some of the research by **Martin Price** during the same period, touching on the articulating potential of topography, which the author called “groundscapers”, in reference to certain conceptions that were not dissimilar to the ideas **Parent** and **Virilio** proposed and that round out the author’s work on knots and links, which we described in the previous chapter.

In contrast, the different examples that illustrate another possible avenue of topomorphic action propose a stronger connection between abstract mechanism and place:²⁶

“An alternative to skyscraping is scraping the ground. A groundscaper is a dense horizontal packaging of space which organically anchors to the ground. The horizontal composition of forms creates a more comfortable feeling by naturally connecting to the land instead of invading the sky with overbearing vertical forms.”

In each specific situation, the solution establishes an enveloping trajectory based on “sliced profiles” intended to generate a free figure, but which is also adapted to the contoured nature of the site, with the potential to respond to the basic – and unique – conditions of the place using a sequential system. Some examples developed according to these criteria for different terrains in **La Jolla (California)**, a rolling landscape of hills and valleys, allows for trying out various solutions for mixed-use programs (offices, restaurants, hotels, sports facilities, etc.). In an initial proposal – **Groundscrapper 1** – the office space program is located next to the highway, taking on the form, in plan, of a wide and continuous arch, which acts as a visual and acoustic screen intended to protect the adjoining residential program, which adopts a similar position within the enclosure, encircling a

large, open-air recreational area.

Whereas the articulation between both complexes houses specific leisure program (restaurants, halls, meeting rooms, commercial space, etc.), the topographic profiles that are generated provided continuity to the succession of ravines and canyons that are characteristic of the place; the concentric buildings define “gorges” and the interstitial voids become “valleys”.

A second proposal – **Groundscrapper 2** – defines a building that meanders across a mountainside creating a new “mountain” above the valley with its profile.

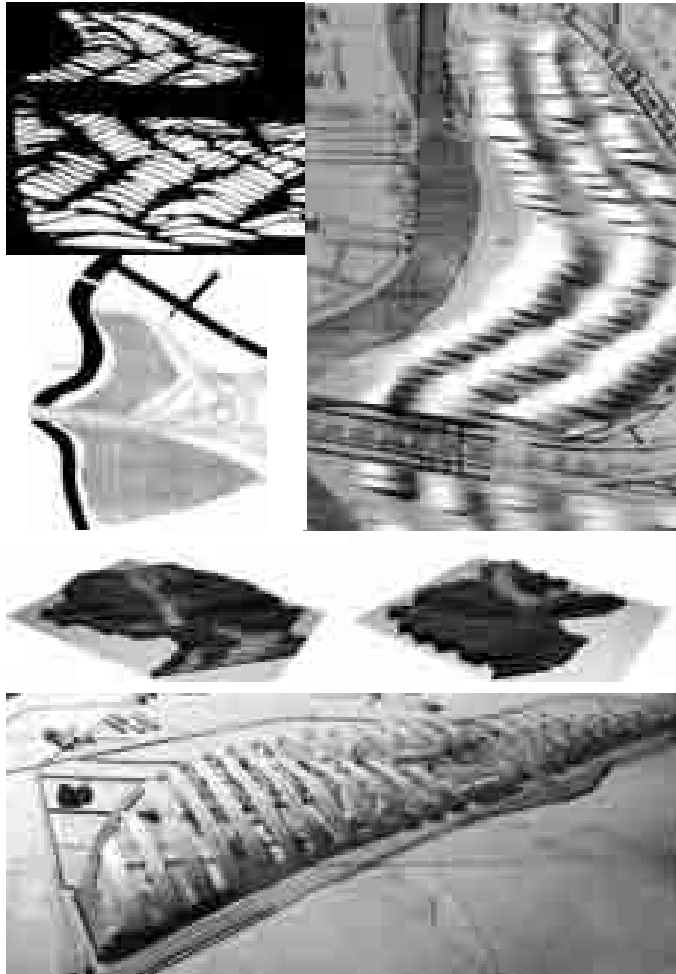
The whole does not rise above the existing landscape, providing a view where the “summits” are the fundamental purpose.

As the built volume enters into the terrain, it draws back to create an open, linear and central space.

In both cases, the dispositif is based on dynamic sequences of structural planes which reproduce – or resonate with – the profiles of the adjoining landscapes. The envelopes of these planes creates a new artificial landscape that is “projected” onto the former.



10.30. Martin Price; Groundscrapers. Proposals for tertiary sector buildings (La Jolla, California, 1996). Groundscrapper 1 (below) and Groundscrapper 2 (above).



A number of operations based on topographic "raking"

10.31. Katsuhiro Isobe: Dislocation: Residential complex (Amsterdam, 1993).

10.32. Martin Price; Groundscrapers. Tertiary sector buildings (La Jolla/California, 1996).

10.33. Herman Hertzberger: Development plan for a technology park (Freising, 1993).

These operations involving "raking" the ground call to mind certain movements based on "cutting", "carving" and/or "terracing", which Eduard Bru cites in his reflections on the Vall d'Hebron Park.

They are operations based on programmatic, and above all perceptive, "accord" or "agreement", which create "topomorphies" which are functionally "negotiated", in that they are "harmonized", and locally "attuned", because they resonate. The theoretical proposal "**Dislocation**" developed by **Katsuhiro Isobe** for the river banks of the **South Axis (Amsterdam, 1995)**²⁷ – in connection with other examples like the design by **Herman Hertzberger** in his urban development plan for **Freising (1993)**²⁸ – demonstrates the possibility (encouraged especially in the research undertaken at the Dutch Berlage Institut during the same period) of proposing a "geomorphic" order defined using the reliefs created by the roofs.

The proposal approaches the transformation of the uninhabited edges of the road axes as possible residential land, based on an inhabitable topography that acts as both a dense "barrier" (or dike) and as a soft "flood plain" (or river bed): a rhythmic sequence of rippling bands – like artificial dunes – and alternating empty bands allows for housing both residential program and open spaces intended for courtyards and individual gardens, while maintaining the landscape characteristics of the surroundings.

The whole defines both a visible ground and an invisible (or, more aptly, dissolved) architecture on the "shifting" foundation that supports it. The use here of a "gill-like" logic, achieved through a series of displacements and sliding allows for establishing a series of bands and ribbons that weave the ground into a vibrating texture, creating a dune-like surface, where "dune" is understood as a shifting ripple, pushed along by the wind or, in this case, by the shifting movement of the process that is generated.



The issue of a possible “tactical contract” with nature – which is both sensitive and perverse at the same time – is taken into account in a pioneering way in the work of François Roche & DSV & SIE, based on the capacity for producing an elastic fluctuation/deformation of the medium in a difficult balance between “extraction and transformation”. 10.34. Roche & DSV & SIE: Folding Topographies (2001).

VI. Ponds, Basins and Pinches: Francois Roche & DSV & SIE

The issue of a possible “tactical contract” with nature appears implicitly in most of the proposals that we are concerned with here. It is a recurring theme in contemporary reflection, but it is especially remarkable in the initial work by **François Roche & DSV & SIE**²⁹ which, for an extended period, was based on what the authors called “dynamics of extraction/transformation” as the explicit manifestation of a conceptual intention:

“To territorialize architecture, so that the site reweaves a social, cultural and in effect aesthetic tissue, is to enshrine it in what it was preparing to destroy, it is to extract from the landscape, urban or otherwise, the substance of a construction... [...] Neither historical regression, nor modern projections, this attitude affirms itself by that to which it does not seek to belong, and so stands out on the razor’s edge, in permanent equilibrium. A process renewed in each place, an in situ attitude rather than one more aesthetic code. [...] But binding the human being to his eco-system cannot prevent binding the body to the body of architecture. Let there be no mistake, this almost chemical process of reactive mimesis is not a simulation of “exquisite corpse”, a visual avatar of disappearance and camouflage under and eco-alibi, seed in hand. Its capacity for laying hold of a territory without enslaving it has to do with [...] the ambiguity of the process of extraction/transformation. [...] For these “hollow” propositions not to add or subtract but to extract, for the goal of architecture to be once more to goad the real, as a contorted alterity within the territory, it would perhaps be enough for us to displace the origin of architecture’s referent in that pre-existing “there is”.

In his text, “Folds” **Philippe Rahm**³⁰ rounded out these considerations, alluding to the movement of superficial folding, which is implicit therein:

“When, one April evening on the island of Réunion, François Roche wanted to describe his scheme for the gardens of Soweto he showed us the back of his hand and pinched the skin between his thumb and forefinger, causing an almost erotic relief to appear. Formally, the project was seen

as the expression of pressure on a place: a prudently applied force whose manifestation is not the destruction but the deformation, the folding, of a preexisting territory.”

Most of the team's proposals investigate this capacity for producing an “elastic fluctuation” – or, more aptly, a “deformation/alteration” of and in the medium – generated by the surface manipulation of the (contextual) material substance, creating an unexpected (and yet implicitly latent) mutation in the scenario that is being addressed.³¹

In this sense, the design for the **Hector Pieterse Memorial (Soweto, 1997)**³² was proposed as a clear paradigm of surface deformation – a morphing of the ground – developed on the ambiguous border between architecture and landscape.

The planned program, a monument – normally a landmark – was conceived however, paradoxically, as a simple wave/depression in the terrain (disrupting, by way of this “disappearance” the traditional “iconic” nature of the monument – meaningful, solemn, present – understood as a prominent “construction-totem”, which therefore plays a representative role).

The incorporation of the building underground – in a natural depression of the terrain – implies a negation of architectural “presence”, making way for a simple precise topographic modification, which is symbolic and useful at the same time: a mound, a gradual slope and a light relief on the ground.

This movement articulates the spaces in a commemorative 2000m² “monument-museum” dedicated to Pieterse – a young student who was killed, a symbol of peaceful South African resistance – by treating it as a special place, buried beneath these new waves in the landscape like a burial mound, an “anonymous grave”, which is simply shifted in scale.

The visible surface is that of a large hummock of bush, which takes advantage of local vegetation.

Only a few skylights and entrances – like small (nearly immaterial) transparent glass prisms – emerge from its flanks, from a space

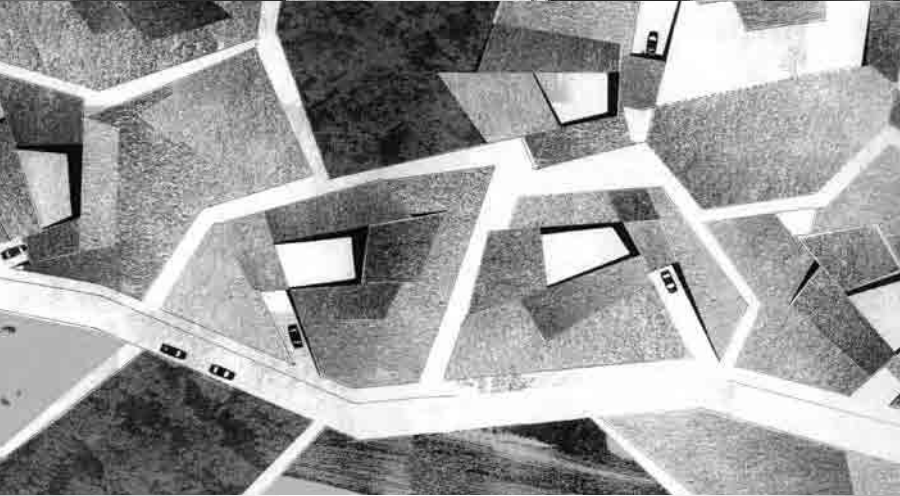
of interior seclusion and concentration, half-buried, which takes advantage of the natural basin in the terrain, folds into it, covering itself with vegetation from the surroundings, not to camouflage itself, but to resonate with it.

The same team explored the ambiguous contract between an unstable and changing nature and a supporting building, in different buildings whose common denominator is, precisely, the concept of a changeable, organic, image with the ability to bring together landscape and architecture, perverting its codes, using mechanisms of spatial and/or superficial morphing.

Proposals which explicitly demonstrate many of the central questions connected with the issues that interest us here, both in terms of a possible fuzzy colonization “in”, “of” – and “with” – the medium and in terms of what results from an ambiguous relationship of complicity and resonance with a dynamic “landscape/field” confined to operations of “localized deformation”, a “mirrored image” or a superficial “lining” according to the case and the circumstances.



10.35. François Roche & DSV & SIE: Hector Pieterse Memorial (Soweto, 1997). Aerial view, a “plant mound” and a “deformed basin” in the terrain.



VII. Furrows and Trenches

This progressive “dissolution” of the borders between ground, landscape and architecture takes on an even more explicit character in the projects developed mainly based on the manipulation of an “excavated” surface: furrows, trenches, “faults” in the ground, which rather than a camouflage – or a “desertion”, like a disappearance – propose an effective encounter between a supporting terrain and bands of uses that are overlapped and embedded in it.

Operations “in the negative” which are interesting – as indicated by José Antonio Sosa – due to their extreme condition:³³

“Where it’s hard to tell whether what is being proposed is a cut platform, where the spatial program is resolved inside, or an experiment focused on an interest for the analysis of what is underground.”

It is, in fact, an interest to approach this “excavated space” as an “integrated” mechanism (in that it is “merged”) in the medium and also “abstract” (because it is “in-visible” and “a-figurative”, apparently “de-materialized”), which connects some of those intuitions with certain (surprisingly current) examples of common habitats in caves or underground which were included in the catalog of the MOMA exhibition, *Architecture Without Architects*,³⁴ in 1964 (organized by B. Rudofsky), among which we find Honan, the buried Chinese city:

“A negative city, absolute non-monumentality; recessed courtyards and a floor of sediments dropped by the wind. “Such land does double duty: with dwellings below and fields upstairs.”

Whereas this and other interesting “heterotopic” examples had been interpreted as “non-disciplinary” phenomena (as examples,

Three connected images.

10.36. Honnan, Shansi, Shensi and Kansu. Houses dug in the loess.

10.37. Jacob-MacFarlane. Residential prototype , 1998 (in no. 220, 1998).

10.38. UN-Studio (Van Berkel & Bos): Villa Wilbrink (Amersfoort, 1992/1994).

that are “extra-architectural”, to a certain extent) the hypothetical operative instrumentation of the ground that we have pointed out here allows for approaching the question from the opposite perspective, looking at it as a strategic response that is perfectly interwoven in architectural logic and which arises from taking advantage of certain *topomorphic* potentials which have re-emerged in recent years.

In this sense, the **Puzzle house (Bordeaux, 1998)** by **Jacob-MacFarlane** lets us see an initial and directed example of “working in negative”: “presence” and “absence” at the same time, but also a combinatory action based on the binomy “ground-plane”, “action-camouflage”, “figure-ground” applied to the conventional program of a single-family home.³⁵

The house, the entrances and the plant life are all part of the same whole, a “milieu” where all of the functions are embedded with one another.

The central design principle, creating an underground space articulated around a submerged garden-courtyard, turns the house (and the relief it generates) into a piece in a virtual urban puzzle where

“green slopes and planted roofs” serve as the waving mechanisms in a new inhabited topography “worthy of a Braque landscape, where right angles seem to have been banned”.

An individual mechanism of local embedding, but also a mechanism of global generation, where various sizes and configurations can be imagined according to conditions of program and of place, according to nearly spontaneous movement of concentration and expansion.

The use of color, incorporation of vegetation, the treatment of the dyed concrete: the natural and artificial spheres are connect and interact mutually, perverting the traditional relationship between “figure and ground”, but also the usual relationships between “outline and subdivision” or between “public and private”.

In this sense, it is worth relating this proposal with the design for Villa Wilbrink (1992-1994), developed by UN-Studio (Van Berkel &

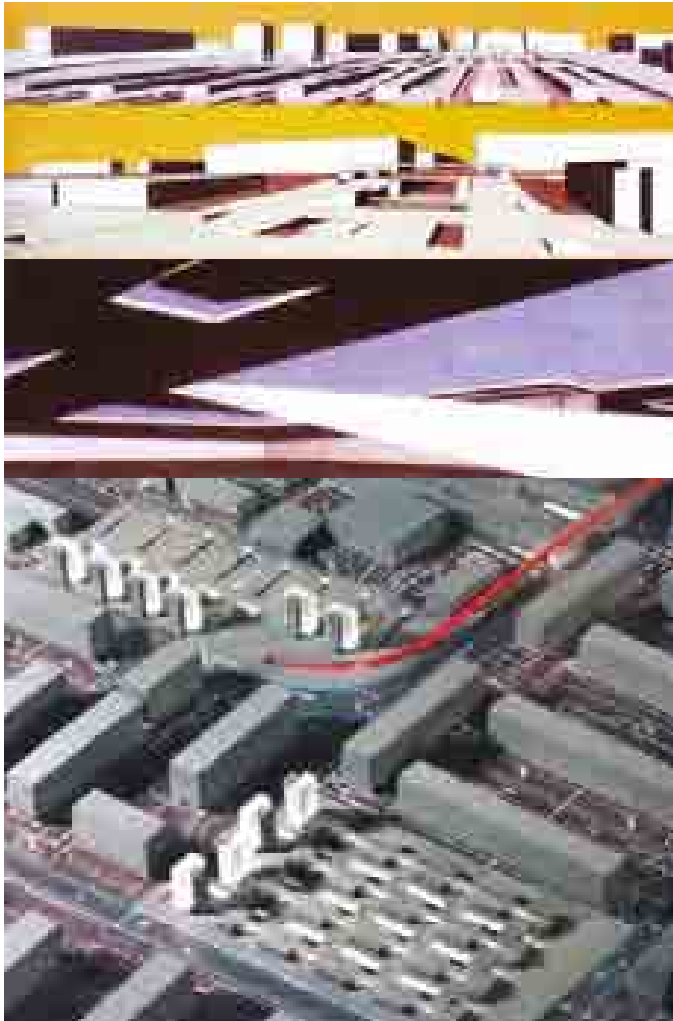
Bos) in the same year, as well as the Atom Heart Mother project (Glasgow, 1996) by **njiric & njiric** submitted to the European V competition, formulated as other interesting examples of “working in negative” in dense ground, approached through a shared action of appearance and disappearance based on the binomials “presence-absence”, “ground-plane”, “action-camouflage”, “figure-ground”, “occupation-expansion”, as strategies applied to conventional programs for single-family and collective housing. In the **Structural Dyke project (Den Bosch and Schwerin, 1994)** by **njiric & njiric** or certain proposals developed by **Ilen Monjen and Inge Bobbink**³⁶ – **Folding (Zuidlaren, 1994)**, **Plug-in (Westergas, 1993)** and **Raising (Bolwerk, 1997)** – the programmatic quality of this perforated, hollowed, clipped and artificialized void is also approached by drawing on the conception of a series of torn trays, understood as large-scale *topomorphic* platforms, which are overlapped and inserted into the landscape.

Dense ground marked by strategic incisions, rhythmic cuts and tears intended to house possible “entrenched” program, creating an initial “zero” ground, as a reference (configured as a large accessible void), dotted with occasional – and lightweight – “protrusions”, intended to guarantee access to the private areas on the lower level (sunken courtyards, gardens and recessed squares, etc.) and the mixed-use program, located beneath (-3 meters).

These are also layered structures, which base their systematic quality on the intermittent arrangement of “furrows” and “faults” of varying widths.

The project for **Schwerin** by **njiric & njiric** illustrates the considerations in a triple framework intended to “decompress” the new built volume, densifying certain areas on the edges in section, and making others “disappear” under the surface of a large-scale torn platform.

The main goal is the development of this new type of inhabited tray understood as a semi-propulsive public membrane³⁷ that also articulates the access to the housing and the private gardens (located on a lower level, like semi-recessed courtyards) and the

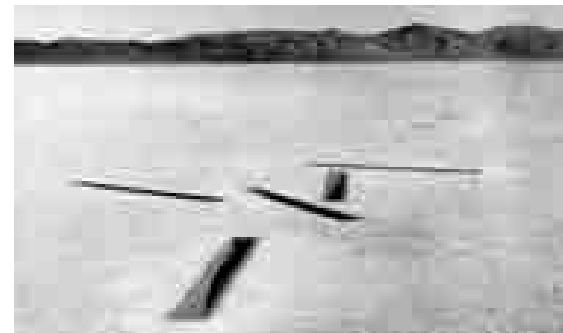


10.39. Proposal for sunken housing. Diacomidis-Dallas-Haritos-Nikodimos-Papandreou: New residential landscape, European III, (Meyrin, 1994).

new collective space developed in a particular “roof/ground” laid out at zero-level elevation.

The horizontal quality of the landscape, facing a large nearby lake, is thus preserved, due to the concentration of most of the residential program in the series of high-rises, perpendicular to the main intervention site.

The proposal for **Meyrin (European III, 1994)** by the team **Diacomidis-Dallas-Haritos-Nikodimos-Papandreou**³⁸ delves emblematically into this line of action – compression/expansion – through the concentration of part of the built volume in a series of off-center, strategically placed screen-towers, and the development of the residential program in three flexible, rhythmically sheared trays, which tear the surface of the ground and articulate connections, entrances and various developments, creating a crystallized landscape of folds and ramps that correspond, respectively, to the roofs of a large parking structure, a mixed-use space and an area allocated for recessed housing. This strategy relies on the geometric application of a spatial module, in section, proposed with a slope of 5%, suit to the movement of vehicles and pedestrians, as well as adequate parking. Contrasted with the “weak urban quality” of Meyrin (a prototypical “ville nouvelle” from the 1970s), the proposal sets



10.40. Architecture and *Land Art*: Michael HEIZER, Dissipate, 1968 (Black Rock Desert, Nevada).



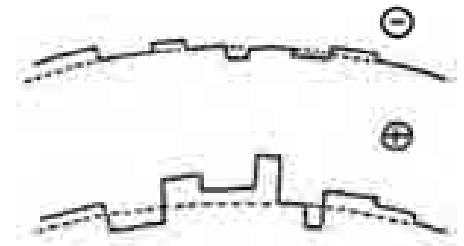
forth a new kinds of “strong ground”, which is artificial – capable of combining open space and functional program:

“A structured floating terrain: perception, movement, transition, a feeling of belonging in the landscape.”

The idea, then, is not to add (or impose) more compact volumes in the place, but to promote a new type of “urban landscape” which is fuzzy and dissolved in its different manifestations: “an inhabited urban park”.

The project – as highlighted by Iorgos Simeoforidis – one of the main theoretical collaborators³⁹ – is revealed as a possible strategy for urban renewal in obsolete industrial estates, generated through a reappropriation of the infrastructural network and vacant open spaces, and their return to the ambiguous “public-private” sphere.

In fact, the proposals by both **njiric & njiric** and **Diacomidis-Dallas-Haritos-Nikodimos-Papandreou** articulate dispositifs in the most “tactical” sense of the term: responses to precise demands produced using abstract mechanisms rather than modeling systems that are transformed into reactive dispositifs, which are generic and pinpointed at the same time.



10.41. Bobbin & Monchen: Raising. Multi-use public space (Bolwerk, 1997).

10.42. njiric & njiric. Residential landscape ((Den Bosch and Schwerin, 1994)

10.43. njiric & njiric (Glasgow, 1996). Diagram



10.44. Francis Soler: New Walloon Parliament (Namur, 1995).

VIII. Rips, Engravings and Origami

The proposal for the **Walloon Parliament (Namur, 1995)** by Francis Soler constitutes another example of a strategy based on this possible “architecture of absence”, derived from the characteristics of the place and the interest in narrative which so concerned the author:⁴⁰

“Art is ever-present among us in the form of absence. [...] It is, one sees, the notion of the site itself that is transformed. Actually, it’s no longer a matter, as in the space of classical representation, of what may foster a composite work, or as in the modern town context, of an aleatory space set around a now autonomous work. It is, rather the way the site itself comes into play. [...] The priority is to extend the work beyond itself...to isolate an attitude which leads to the identity of the work in a form that is paradoxically absent or barely perceptible.”

The solitary iconic presence of the old citadel, atop an empty embankment above the convergence of the Sambre and the Meuse rivers and the “infilled” nature of the site lead to the development of a response based on the sunken construction of successive sequences of “full-empty” intended to avoid the insertion of new objects into an emblematic landscape through the arrangement of a new type of relief, which is manipulated and outfitted. The roofs of the “full” spaces make up the “ground” of the citadel: a green and thick ground conceived as an “engraving” intended to combine programmatic volumes and public surfaces, in an operation that is not without poetic connotations:

“The new parliament is founded in the very land it is meant to serve.”

In turn, the voids create “garden-courtyards”, located beneath the ground level, which let in the daylight and provide contact with the outside for each of the enclosures.

The proposal allows for demonstrating this two-fold, “strategic” and “narrating” condition (in addition to “narrative, as the expression of a pre-existing “woven” situation) which is present



The rejection of old delineating mechanisms makes way for new topological potential in the site.

10.45. Soriano-Palacios Bilbao. Residential geography, European 4 (Bilbao, 1996)

in most of the projects we have mentioned and which was pointed out by José Morales with particular acuity:⁴¹

“Only from this point of view can say that the surface level is the level of depth. The space formed in this interior-external, above-below, is discovered as a result of the interferences between the two... Implementing this space, ‘building’ this type of proposal, would be ‘performing’ architecture”.

To paraphrase Morales, the spaces of architecture and the spaces of the place become one and the same. We might say that this intention is the foundation for the idea of dissolving interiors and exteriors, voids and occupation, presences and absences; but we might also say that it has led to this tendency for landscapes, grounds, roots, outlines and built volumes to mutate, to metamorphose and to blend together.

This duality between “presence” and “absence” also underlies various proposals from the same period, such as the designs by **Soriano-Palacios for Bilbao (European IV, 1996)** or the ones by **Actar Arquitectura for Cehegín (Murcia, 1998), Zoo Mar (Barcelona, 2000) and Teulada (Alicante, 2000)**.⁴² These investigations deal with other possible dynamics for occupying the ground, which allow for putting geography before building, topography before outlines. These proposals are illustrative in that they are formulated based on a rejection of traditional – and proscriptive – mechanisms for regulating built volumes, and highlighting the topological potential inherent in the site.

Cuts, veins and layers make up new “geomorphic” forms (which are irregular in terms of their textures, material and colors), understood as “flexible engravings” or “geological shifts”, rather than strictly constructive geometries, and where pavements, plants, ground, fissures, blocks are combined in this new attempt to create engraved, mineralized or crystallized landscapes, but which are still associated with natural movements.



“Rather than seeking out regulatory lines [...], what we wanted to do was to bring out the forms lying beneath the ground level. We have brought to light the veins and strata of minerals we are so used to seeing as we [...] see an opencast mining excavation. These interlarded strata, colours and textures of different materials.”

In short, we are referring to possible “imprints” conceived as textures or traces and veins, that are stamped “by pressure or percussion” onto the supporting space.

By extension, there are also “landscape imprints”, like textures or reliefs (geographies or topographies, i.e., “operative” carpets or grounds) which are stamped – printed – onto a possible basic landscape.

These considerations bring together the idea of an “imprint” with that of a “stain on the landscape” understood not just as a blemish, spattering, ring or grime, but above all as a “portion of ground” that stands out from its surroundings due to a difference in material, color or texture.

“Stains on the landscape”, like singular “polka dots” of activity: topographies, platforms, trays, plateaus: grounds or enclaves. But also “stains” that are formed by imprinting or stamping, like bands or weavings in different colors.

Essentially commensalist surfaces.

Operative landscapes on top of host landscapes.

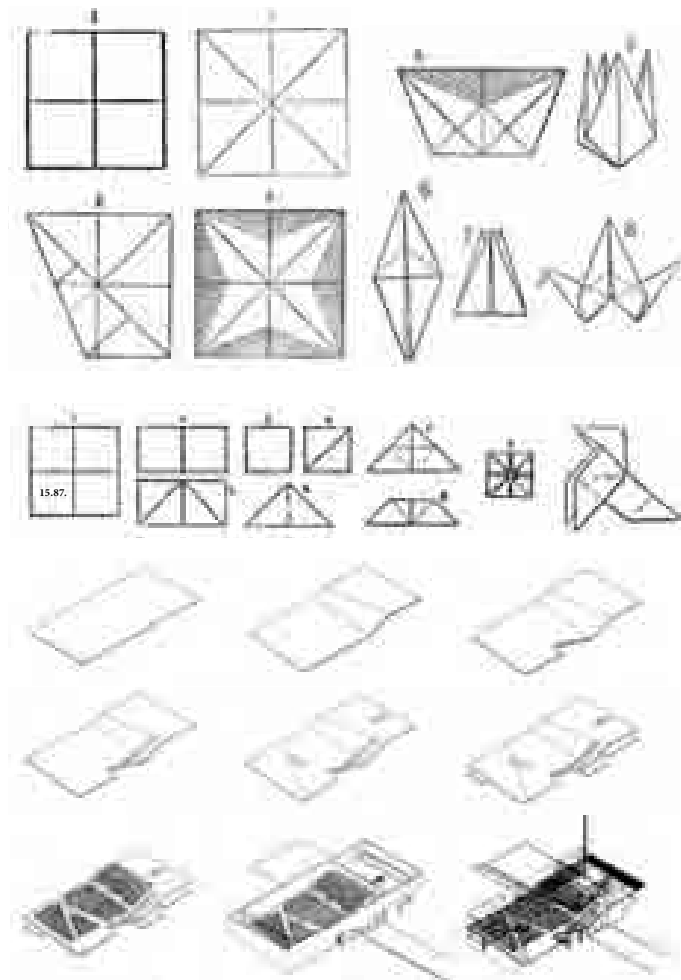
Lands in land, again.

These manipulations of the ground might be interpreted as “dualities” in/of the landscape: “ruses” referring to the internal folds and refolds of this essentially (or) underlying nature. Double folds which refer back to the “duplicitous”, i.e., manipulative and manipulated, expression; fluctuating between landscape and architecture, characteristic of this ambiguous superficial condition we referred to earlier.

Work with operative ground conceived based on strategies using folds, wrinkles or paper folding. The manipulation of ground and surfaces constructs volume, relief and space.

10.46 Actar Arquitectura: Marine Zoo facilities (Barcelona, 2000)

10.47. Public space (Cehegin-Murcia, 1998) // 10.48. Active ground (Teulada-Alicante, 2000).



10.48. and 10.49. Traditional paper-folding exercises. "The traditional crane and the flying crane" (in , ed. Muntañola, Barcelona 1925).
 10.50. MVRDV. Church in Barendrecht, 1993. Folding process.

Doublings, folds, superficial wrinkles, associated in turn with this unusual instrumentation of a possible play of manipulations which moves between flexible fluctuation, scraping, engraving or folding, in which we recognize recollections of old exercises in paper folding or origami, as manipulations of the plane.

Strategies that attempt to build a specific virtual volume based on processes of "deformation" and "conformation", which are different from the simple overlapping of more or less identical planes or the more or less cubic compression of the object. Exercises that often refer to a diagonalized space intended to connect surfaces and levels based on the junction of folded planes and spaces, which attempt to transform the concepts of "ground" and "roof" based on the diagonalization which is implicit in the possible play of ramps, folds and voids, intended to interconnect, extend or adapt, as both surface and volume at the same time.⁴³



Projects using operative ground, conceived based on strategies of folding, wrinkling or origami. The manipulation of grounds and surfaces creates volume, relief and space.

10.51. Morales-Giles-González: Sports facilities in Las Palmas, Gran Canaria, 2003.

10.52. R+B. Gerbert d'Orlhac high school.

10.53. Willy Muller arqs. Cultural center in Santa Eulalia.



IX. Yin-Yang: Figure/Background, Empty/Full

Where the issue of outlines, between object categories, landscapes and voices (referred to earlier) evokes an action based on erasing, or blurring the borders and the edges, in order to adapt them to vaguer and more fluids forms – flexible surfaces that are in complicity with nature yet independent at the same time – it also seems to allude to a redefinition of the traditional Eastern duality between *yin* and *yang* – light and shadow, figure and ground – which Iorgos Simeoforidis described so adeptly:⁴⁴

“In architectural terms, the yang, the light, could assimilate the exterior form, and the yin, the shadows, the content. [...] But against this centripetal tendency it would be, logically, possible to imagine another centrifugal action [...] from the interior towards the exterior.”

Whereas, in the disciplinary tradition, it was these gauge lines, volumes or outlines which regularly defined the shape of the city, today this predominance of form, this “architecture of walls” is confronted with another kind of tradition – as Simeoforidis pointed out – an “architecture of grounds” which has the potential to promote more open and changeable scenarios, movements and events, in keeping with its own mutations, far removed from the old, closed-off, hermetic and unchangeable figuration of conventional form.



Interactions

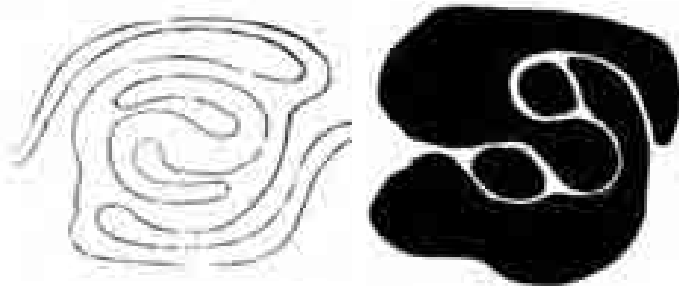
10.54: Kazuyo Sejima: Multimedia studio in Gizu (Tokio, 1996).

10.55. Perejaume: , Costa Brava, 1988.

10.56. Conceptual schematics of the dualities “sea/land” and yin-yang seen as “figure/ground” diagrams.

We are talking about spatial devices that tend toward fading silhouettes, vague shapes and a continuous fluidity between exterior space and interior space. About architecture proposed as and from possible trajectories of feedback between interior and exterior; architecture in an ambiguous communion with nature through a logic that is conceived, precisely “beyond nature”, beyond the common and gradual idea of integration, fusion or transition; architecture that is capable of generating resonating and flexible spaces which are decidedly “topological” in the fluctuating expression of this possible interpenetration between figure and ground, empty and full.

The progressive interdependence to which we are referring here, called on to reformulate old “essential” categories of the urban sphere (building, landscape, infrastructure) in new dynamics of cooperation and synergy – associated, in turn, with the interaction between old dualities (natural/artificial, territory/city, empty/full) – refers back to mechanisms of encounter, interweaving, superposition, overlapping, clipping or folding, either standing alone or in combination, where the void no longer appears as something residual, but as a fundamental – and functional – agent with just as much operative capacity.



Interactions

10.57. Digrams of “figure-ground” interpenetration (archive).

10.58. Jürgen Mayer H.: Seasonscape, Ascona 2003.

10.59 Max Ernst: , 1962 (fragmento). “[The position of Venus] appears secondary but due to the effect of the relief, it positions itself at the front,” (J.A. Sosa in n° 220, 1997).

Florian Beigel, citing Giorgi Morandi, reminds us that:⁴⁵

“In suibko, the Japanese technique of ink brush painting, the white, unpainted shape on the paper is the most difficult and most important part of the painting. [...] The space between the bottles is the essence of the work, in fact it brings the bottles into being. [...]”

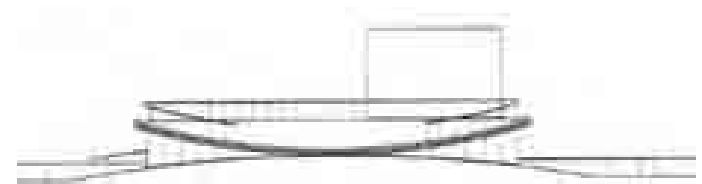
As Iorgos Simeoforidos has pointed out, in traditional Far Eastern thought there is a notable absence of dichotomies between nature and culture, since the environment is considered globally (natural space or urban milieu). As opposed to fixed architectural models (orders, types, etc.), “Chinese geomancy” foreshadows the new rules of the game. On more than one occasion, He elaborates on the concepts of yin and yang.⁴⁶

“If you intuitively sense a certain cultural malaise in Europe and the United States, it is because the yang has been allowed to shine too brightly and there has not existed an alternative yin. In architectural terms, the yang, the light, could assimilate the figure, the volume, the exterior form and the yin, the background, the shadow, the content more than the container.”





In all the topographic agencies we have analyzed here, it seems evident to highlight this desire to join together or mediate between “exterior” and “interior”, “nature”, “landscape” and “architecture”, “roof” and “ground” in the well-known project by **Kazuyo Sejima** for the **Multimedia studio in Gizu (Tokio, 1996)**.⁴⁷ The building – a working laboratory for digital artists – stretches out like a “thick carpet” atop a large field of grass, which is actually part of a larger green area near the university campus in Gizu. On top of this large-scale green layer, the building creates a new “layer” – or stain – on the landscape, which is depressed or warped with respect to the original level of the terrain. Whereas the strict rectangular geometry of the floor plan lays out the borders of the intervention, the roof is deformed into a slight curve, forming a conoid: a gentle slope that allows for its use as an access place, an exhibition space and a stage, but which, above all, highlights the condition of an “embedded” curved topography that concerns us here: in its subtle conception of section, the design is compressed to house the program, in a movement of deformation and “warping” which displaces the terrain and undermines it. Here, too, the idea is to lay out a programmatic “mat”, a “crushed” volume, in which the building alters its profiles to become a small basin or pond inserted into the terrain through an “elastic” – i.e., adaptable – treatment of geometry. Although the work is apparently shaped on the basis of a purist – nearly minimalist – logic, there is an underlying ambiguously hybrid nature, a fusion between topography, architecture and



10.60 y 10.61: Kazuyo Sejima: Multimedia studio in Gizu (Tokio, 1996). Relationship/fusion with the landscape from different degrees of distance; building cross-section.



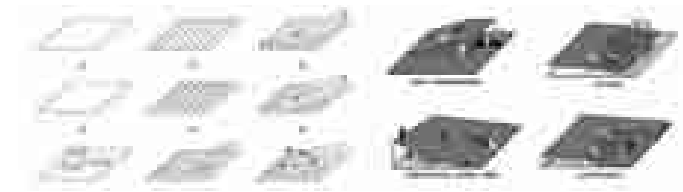
infrastructure (the roof appears as a decontextualized and warped section of road or as a mineralized carpet) in a mixture between abstract curve and relief, which is not limited by a geometric definition, but rather expresses the building's own *infratopographical* conception.

The project/dispositif refers to other possible "subsystems" in the city, but, moreover, it presents itself as an "enclave" (a concept we will address in the following section) understood as a folding of the terrain, rather than an actual fluid ground.

In most of the cases we are dealing with, we recognize an abstract – nearly conceptual – response which is also adapted to the place:⁴⁸

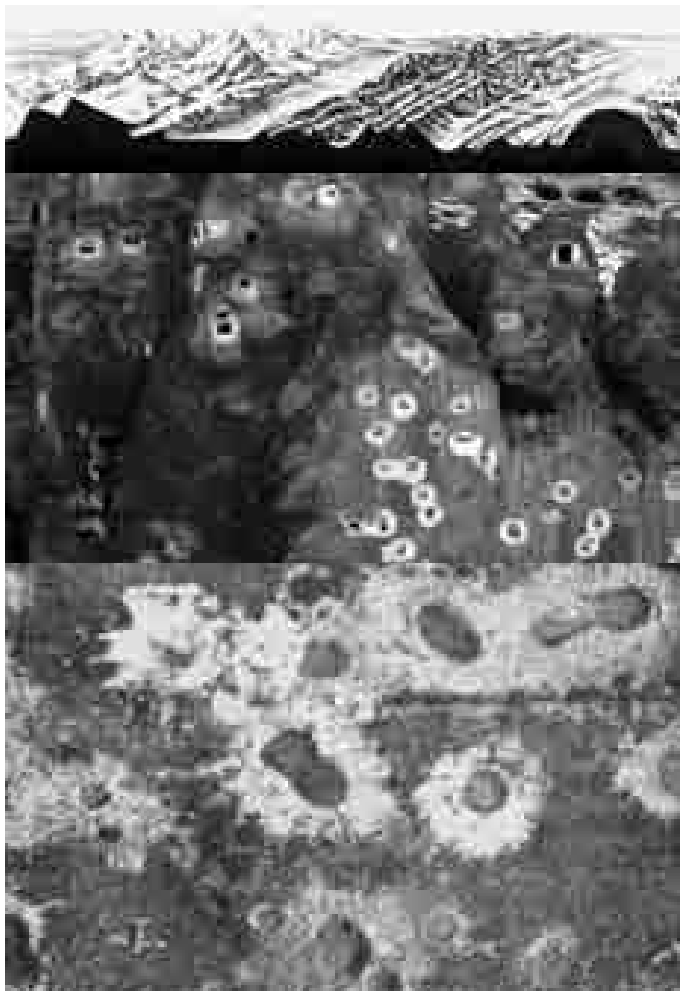
"An architecture which imagines itself precisely where landscapes end and begin; in those places where we expected the presence of the eternal dualities between object and territory, or the other presence; that of the interior-exterior. We thus encounter a habitable proposal where it is difficult to explain borderline places, the limits or conclusions."

In this de-objectification or loss of values linked with "reification" – the object – which occurred as a consequence of a more abstract conceptualization of the milieu, architecture starts down a path tied to the awareness of this decidedly contemporary "supportive" instability and uncertainty. An ambiguity or impurity of "presence" translated into this kind of formal reduction resulting from fostering the "topos" from a topological standpoint.



10.62 and 10.63. Operative topographies.

Plot (Bjarke Ingels-Julien de Smedt): Youth center and sailing club, Copenhagen 2004.



10.64. Mountainous formations in folds and faults.

10.65. The impact of craters and localized reliefs and cave dwellings in Anatolia.

10.66. Toyo Ito. "Der Vorhang des 21 Jahrhunderts" the drive of folds and fluctuations (in *Arch* n° 119/120, 1.)

X. Crushing

The dynamic modeling of the ground (also common in Land Art) as a surface vibration and as a flowing magma and the promotion of both "shifting" and vibrating sequences – like discontinuous layers – or the adaptability of "relief" as flexible "cuts" or "breakages", are recurrent actions to be found in many recent architectural designs.

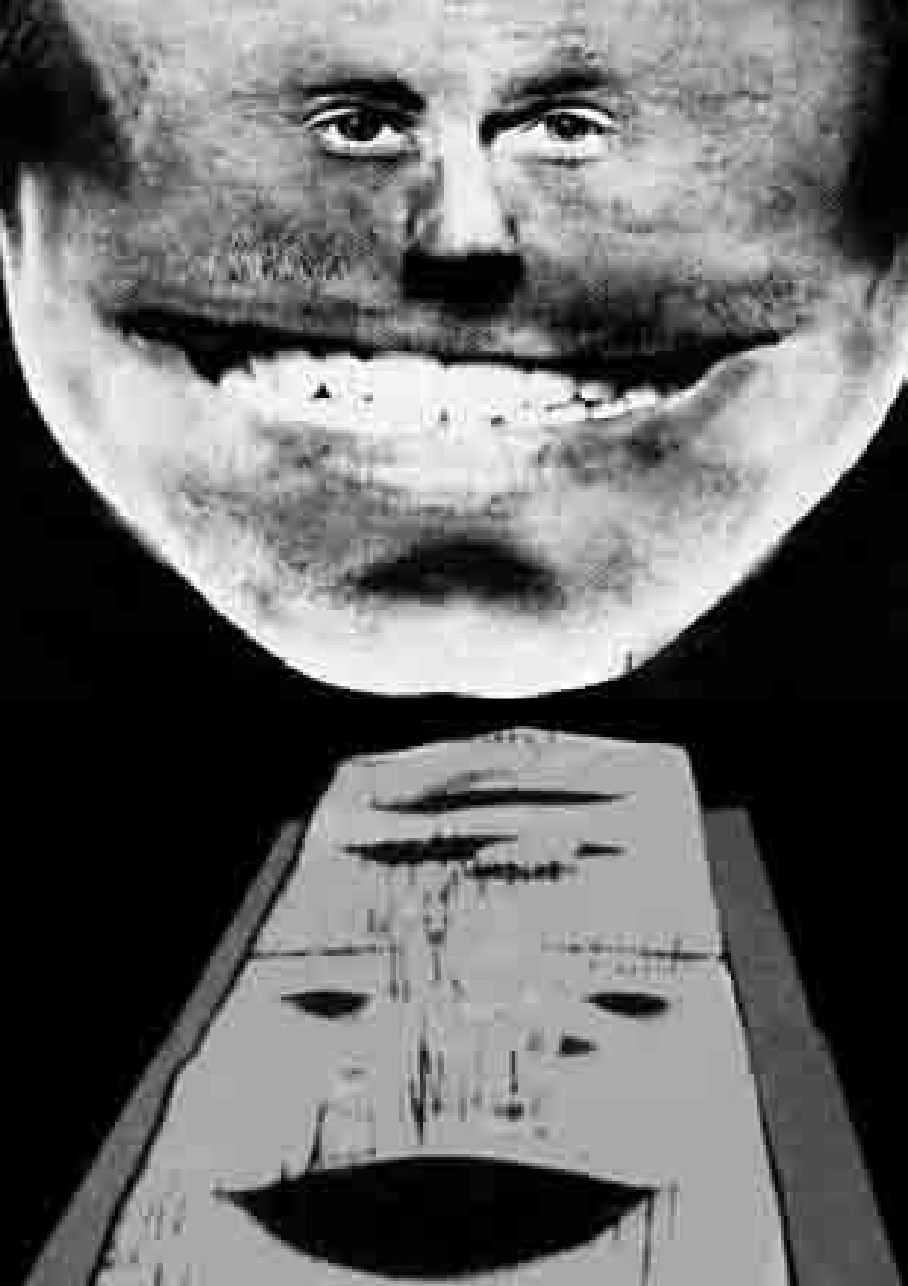
They are all founded in this hybrid and "topological" relationship with the milieu, the consideration of which, as a design premise, led to many connections in the past decade, as well as most of the architectural proposals in this chapter.

Looking at the result of putting these images together – as pointed out by José Antonio Sosa⁴⁹ – highlights a possible common link between them: the special relationship between "figure and ground" or between "ground and architecture" which runs through them and connects them as a leit-motif.

"[With] its condition of simultaneity on top of the condition of contrast [,] the object focussed character so common of previous architecture and art appears to have disappeared and this has been substituted by a more extensive and open desire to value emptiness (ground, air...) as integral parts of the work, in which the aim is to create environments, to preoccupy oneself with the reproductive capacity of the ground surfaces and on top of which, the de-territorialization of activities and programs..."

During the whole classic tradition, the landscape or the site have played, to a large or lesser degree, a passive or scenographic and permanent part. This has also corresponded to the role played by architecture, which has likewise developed this symbol of representation for anything that is stable. Throughout this century however, we have assisted in bringing about a progressive number of changes in these roles. Firstly, architecture has been losing this stability (in the formal as well as the conceptual) in constructing free object, which are disconnected from the ground and the place, or in making itself formally unstable, flexible or contingent on its uses and in becoming ever more weightless, light and ephemeral. Subsequently, these shifts have begun to apply themselves towards a redefinition of the ground."





José Antonio Sosa continues:

"The ground, which until then was a tranquil symbol of the stability and apparently unalterable support of human activities, has radically changes and not only in the natural and ecological sense. [...] The frame in which a building finds itself situated today is neither stable nor tectonic; little by little the city becomes a paradigm of everything undetermined, the ground is the place of monetary appreciation, the system of global production disconnects concrete space..., the activities are shifted within their territories. Therefore, what sense is there in maintaining the duality of figure and background?"

The acknowledgement of a new digital tool with the ability to simulate trajectories, project systems and process a topological deformation of volumes, their extension and/or possible crushing, lengthening or folding (not just metaphorically, sculpturally or "formally", but in a precise, matrix-based and/or programmed manner) promoted the development of this fertile research which explored a virtual, "impure", territory of the encounter between surface and volume.⁵⁰

Like faces pressed up against the glass, the old prismatic containers outlined against the sky were replaced by new magmatic forms crushed against the ground; crouched forms, where – in a fertile paradox – "the roof of a building could end up being its main floor". As such, we would no longer be creating lovely "volumes under the light", but rather "ambiguous landscapes under the sky". Hybrid topographies with the ability to generate their own energy and their own self-reproduction. Fields inside other fields. *Lands in lands.*

The new digital tools allow for topologically deforming old volumes, with precision, transforming them into landscapes, in the same way that they wrinkle surfaces, making them into reliefs. Like faces pressed against the glass, the old prismatic containers, outlines against the sky, are replaced by new topographical forms, overlapping with the ground.

10.67. Surprise, monster! Advertisement for a sale on photographic material.

10.68. F.O.A.: Yokohama Ferry Terminal competition, 1996. Model.



XI. Reliefs: Localized “Geographies”

The term reliefs – like explicit emphasized topographies – can also be used to identify spatial devices formulated as extrusive landscapes – raised areas in the landscape: “landscape eruptions within other landscapes” or, in other words, “eruptive fields, within other fields”.⁵¹

Although, later on, we will touch on the notion of “field” as a “synesthetic” milieu, an intersection of forces and information, it is worth introducing a possible connection with the idea of an enclave as a “distinct territorial...unit enclosed within... a foreign territory”.⁵²

The horizontal drive of the ground, makes way for a more pressing movement of extrusion and/or folding.

Reliefs or projections, understood as eruptive landscapes, translate a “reappearance” of topographical qualities in architectural geographies, which are increasingly explicit in their “nature” as dispositifs.

In most cases, we see reliefs configured as artificial topomorphies which respond to enclosed dispositions, as opposed to expansive systems: to localized folding movements – “pleats and/or creases” – intended to house concentrated – “enclaved” – programs based on a possible – and radicalized – hybridization between landscape and architecture, but also between “mesh” and “topography” or “circuit” and “fluctuation”.

In fact, the specificity of these enclaves is that they tend to promote operations of bastardization between knots (like refolding or coiling) and grounds (like folds or platforms) and, in this sense, they highlight a certain singularity in the idea of dispositif – as a process or a system – that we are contemplating here.

Urban formations of “mountainous” reliefs.

10.69. Pigeon Houses in Mit Gahmr, the Nile delta and cave-dwelling structures in Anatolia, Turkey (archive).



Reliefs, enclaves or folded projections – natural or artificial, but also territorial and urban – allude to multiple folds and layers of a multicity which is, in turn, made up of extruded surfaced and “enclaved” topographies, halfway between the geologic and the geographic.

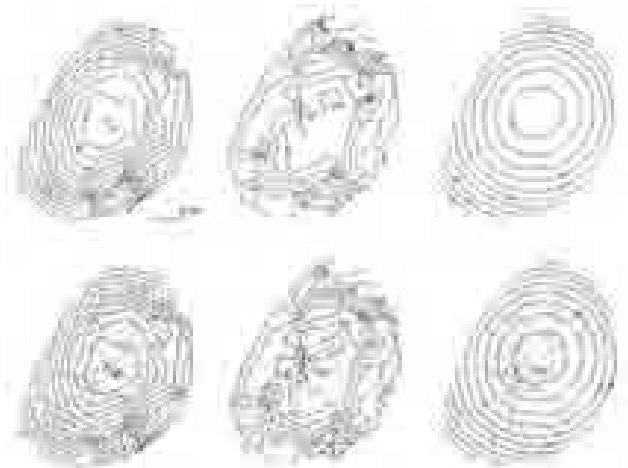
In them, we continue to see this ambiguous treatment of the lines of friction, the edges and the borders, between *topos* and *tectos*, between “figure” and “ground”. Between architecture and landscape.

The limits in a topographical nature which, rather than “caging” spaces or “subdividing” uses, prefers to “model” activities in a fluid milieu, which is “pinched” by the presence of possible “accumulator folds”.

Reliefs as new enclaves, which reveal a concern for colonizing the milieu (beyond the old distinctions between buildable areas and protected areas) using dispositifs of “densification” and “conservation”, at the same time, to formulate this possible paradoxical definition of a “landscape” understood as “artificial nature”.

These reliefs would be organizations located halfway between “buildings” and “geographies”, in which the latter “typomorphological” and “topomorphological” condition would be most apparent, in that they would be conceived mainly as concentrated operations of extruded “relief”, rather than magmatic mechanisms of expansion (ground).

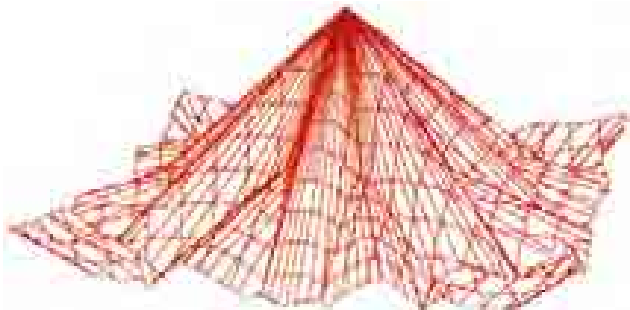
We still see in them the characteristic parameters of the dispositions we described earlier: complex (virtually “open”) geometries with a changeable purpose (variation and incompleteness), the explicit presence of an ambiguous “empty/full” relationship (“figure/ground”) and a matrix-like intertwining between the parts associated with a flexible conception of space and a nature that is “hybrid” by definition, i.e., unique in that it is significantly irregular.



Many of the *dispositifs* illustrated here can be associated with movements of topological deformation, resulting from varying forces and demands.

10.70. Reliefs on the surface of a dune.

10.71. Mwwps of a localized enclave (in no. 121, 1994).



XII. Geodesic Forms: Shoei Yoh

The work done by the Japanese architect **Shoei Yoh** will help us delve into these considerations based on a type of approach that connects the topographical resurgence with the idea of “fold” or “crease” that we commented on earlier.

The interest lies in its simplicity: the conception of a series of low-cost “reliefs” based on topomorphic geometries derived from surfaces of revolution and created using readily available materials (reeds, cement, sand, etc.).

This reliefs not only configure possible “prototypes”, but also virtual “prototopes” intended to promote combinatory patterns that are subject to variations and reinterpretations, not entirely different in their appearance from the concrete shells conceived by **Félix Candela**, although in this case they are developed based on a flexible deformation and expansion which maximizes their topological potential.⁵³

This refers back to the process of on-site deformation and/or elongation of such structures, in relation to the construction process.

Despite their apparent formal continuity, the work by Yoh ties in uniquely with the open “dispositifs” proposed within these pages: dispositifs intended to break with the old typological distribution between form and function, architectural object and supporting base, to be shaped as topologies of movement, which are more sequential (seried) or more variable (irregular) in their evolution and development.

In his **Community Center and Nursery School (Naiju, 1993)**,⁵⁴ this type of topological work is supported by a structure that is adaptable and economical at the same time: a flexible bamboo mesh as a reinterpretation of the local cane frameworks.

The planar grid is hung from a temporary post and is later unfolded over the intended area, in the same way that a tent is set up.

10.72. Cone-shaped relief formed by eruptive lava (Klaus MERKEL.; ed. Lars-Müller Pub., Baden 2000).

10.73 and 10.74. Shoei Yoh: Community Center and Nursery School (Naiju, 1993).

"The bamboo structure became pliant and netlike and, with the aid of a barn fire set within the open structure, the team of architects, constructors and community members were able to bend the bamboo into the necessary form. The undulating cage-like form was then covered with steel mesh and concrete. A temporary post was removed in four weeks. The smooth forms of the building now sit within the landscape like a gigantic inverted flower."

In the **Community Center in Uchino (1995)**,⁵⁵ the complex (senior citizen housing and a children's center at the same time) encompasses a complex curved surface. The gridded bamboo mesh is deformed until it becomes a surface in three layers and directions which is maintained as the finish of the interior face of the roof, once it has resisted the tension forces resulting from the pouring of the concrete.

The designs by Shoji Yoh express an idea of a formal building system that is flexible in its generative logic, which refers back to a structural pattern conceived on the basis of the capacity for conformation, deformation and adaptation of the geodesic meshes, which show variations and modifications in each unit, subtly interweaving the distinctions between global system and local behavior which interest us in this instance.

Between the generic structure and specific variations.⁵⁶

We could call them reliefs conceived as flexible membranes associated with the spatial idea of mesh, as a flexible tessellation and a fibrous structure that is resistant, permeable and deformable: mesh as a dispositional trajectory, which generated "formless" forms between the topographic and the topological. The surface deformation implicit in this work is not dissimilar to the elastic "stretching" movement which **François Roche** referred to through the ideas of "nibbling", "pinching" or "wrinkling" (associated with the capacity for topological deformation of membranes or flexible surfaces and which alluded to this condition of topomorphic "extraction" or "eruption" in the landscape, which the author himself highlighted in some of his texts.⁵⁷

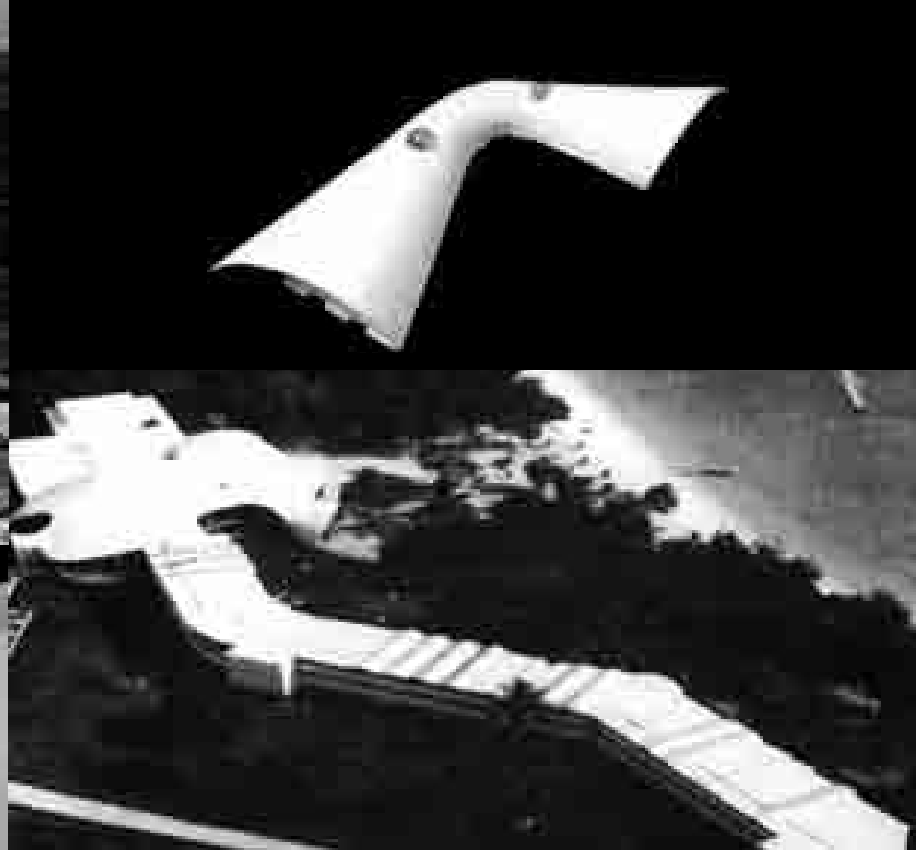
In certain pioneering work by **André Bruyère (Hotel Caravelle in Guadalupe, 1960; Center for Thalassotherapy in Quiberon, 1967, etc.)**⁵⁸ we see the same desire to work with surfaces understood as "pinched" "skins", or ground, characterized by the plasticity of free and dynamic forms, built using reinforced concrete shells. However, it was perhaps in his investigations of possible evolving dispositifs, generated using two cones joined together in an "L" shape (which the author himself called "chaussettes", or "socks") where those intuitions showed the most effectiveness; a school, an auditorium, student housing – the mechanism adapts to different programs and locations and is altered, deformed and adjusted according to the circumstances, combining constructive and spatial efficiency with a metaphorical landscape quality: that of a small promontory, like a localized fold or relief, inserted into the landscape, which so interested the author and which recalls the proposals by **Roche** for Soweto that we mentioned earlier.

The still prototypical and slightly rigid geometric structures, using shells, by **Bruyère** – or **Candela** – make way for new reliefs with more ambiguous and fluctuating organizations, in a possible synergy with a potential operative landscape.



10.75. The fold on Flo's hand, 220, 1996.

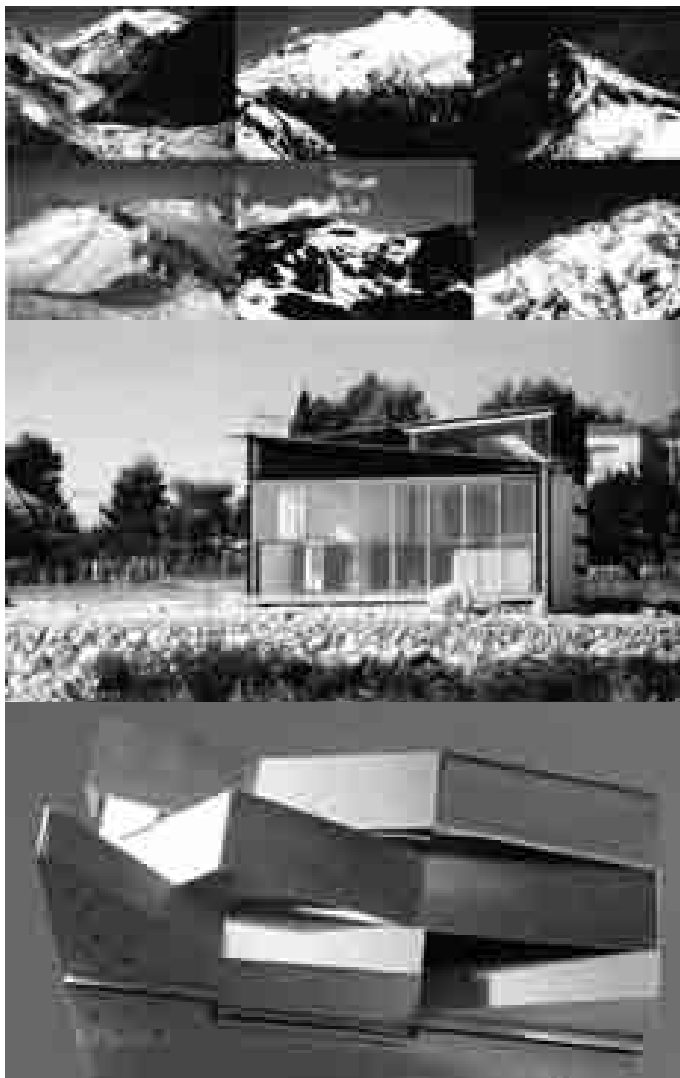
10.76. "Deuxième Peau. Les immatériaux", Beaumont 1985. Cutting from an artificial dermis (in Roche, DSV & Sie: , ed. HXX, Orléans 1998).



10.77. Shoei Yoh: Community Center in Uchino (1995).
Cover view and general plan.



10.78. Yves Bruyère: La Chaussette, prototype for a polyvalent roof (1951).
10.79. André Bruyère: Hotel Caravelle (Guadalupe, 1960). General view and floor plans.



XIII. Mountains: Peaks, Breaks and Morphologies

The investigation of these possible “pseudonatural form(ul) ations” and their apparent relationship with the Oriental tradition of “geomantics” and natural patterns with a topographic configuration refers back to many of the projects proposed by Vicente Guallart concerning the morphological structures of mountains and their eminently geographic condition:⁵⁹

“Architecture has traditionally utilized Euclidean geometry, which represents pure volumes, definable by the use of equations. [...] But natural objects like mountains have irregular and fragmentary qualities. [...] Software, responsible for the loss of centrality of cities, is the only thing which permits us to represent the new reality of this inhabitable world. Represented thus, nature is now re-edifiable by man. The world is converted, then, in an inhabitable environment, in the city of a thousand geographies.”

The experiments by **Vicente Guallart** were directed toward a physical redefinition of this “modeling”, or “complexion” – “complexity” and “flexion” – of the ground itself. Many of the initial projects were based on this direct appropriation of a geography transformed into raw material and an instrumental possibility; they were proposals that could promote new spatial – and therefore architectural – experiences on top of landscapes that were definitively subject to an ambiguous, semi-natural condition.

In his **House on the City Limits (Valencia, 1995-96)**⁶⁰, this awareness of the landscape and its natural elements constitutes – and conditions – the embryo of a design that expresses many of the author’s future concerns in a forcefully schematic way. Based on a basic geometry in plan, the building is organized through the superposition of stratified layers of transformation,

10.80. Vicente Guallart: Peaks and hills: six of the seven highest summits on the planet. Images for the House of Seven Summits (Valencia, 1998).

10.81. House on the City Limits (Valencia, 1995-96)

10.82. House of Seven Summits (La Pobla de Vallbona, Valencia, 1998).



which demonstrate a specific “nature”, where the uses are developed in accordance with a direct reading of the building’s section.

The interior space is understood as a large void, outfitted with multi-functional objects that sometimes transform the container into a large-scale piece of furniture/storage space.

The design is a “virtual box” transformed into a diagram of topological progression: an abstract solid that changes in – and with – the landscape, deforming itself directly, breaking up its upper profile and transforming it into an artificial “relief-garden”: a “summit” that refers to (not very) far-off horizons.

The spatial device defined in this way responds to a localized site, but it is also abstract enough to be understood as a “genotype” with the potential to promote hypothetical developments based on variation subtypes, where the interaction with the context and its natural elements is approached from this basic geometry which deforms its gauge to outline the more or less subtle or sinuous discontinuity of a virtual artificial relief, which resonates with other information in the program and the landscape.

In the **House of Seven Summits (Valencia, 1998)**⁶¹, this possible mechanism of “broken progression” is specified in a decidedly more radical manner.

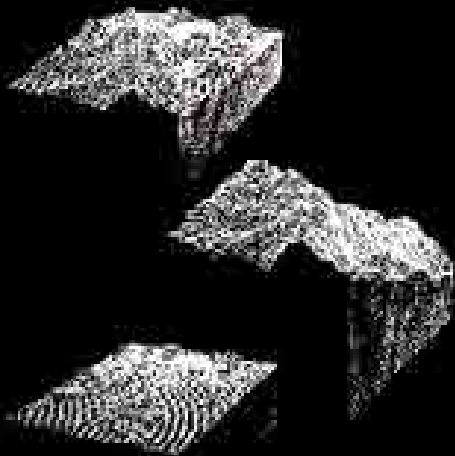
The house is built literally using overlapping layers – strata – where the geometry gains in complexity as we move higher in section, and the building loses density and/or materiality.

This creates a progressively complex and irregular order, defined using mathematical formulation that range between linear and differential and which allow for building the house(s) following a notably differential pattern of evolution where the floors overlap and are organized following guidelines that are perpendicular to

It is worth looking at much of the work that has been done concerning the morphological structures of mountains as research associated with strategies for the physical redefinition of the territory, related to trajectories of geographic “complexion” – complexity and flexion.

10.83 and 10.84. Vicente Guallart. Design for a faceted artificial mountain above a quarry, Denia, 2001. Studio images and geological structures from the site.

10.85. Buckminster Fuller: one of the architect’s characteristic domes for an alternative community (San Francisco, 1968).



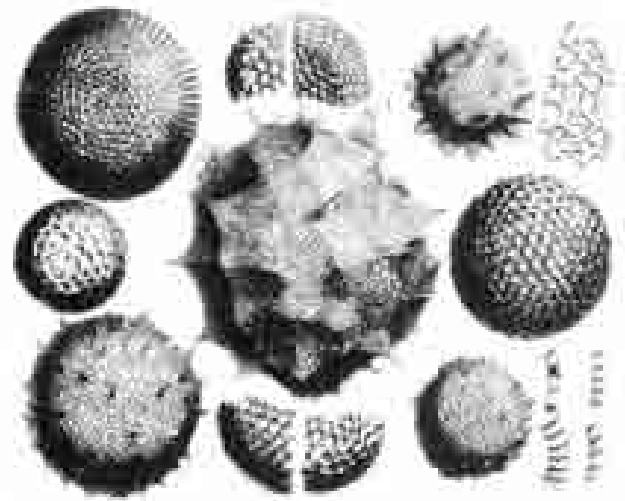
Various analyses of the processes of natural shaping and studies of natural patterns.

10.86. *The shape of the dragon*. "Geomantic pictogram" (Sophie and Pierre CLEMENT and Shin YONG-HAK: *Architecture du paysage en Extrême Orient*, Paris 1987).

10.87. "Reliefs, coastlines and imaginary continents" (MANDELBROT: "Fractals: Form, Chance and Dimension")

10.88. Vicente Guallart: *The city of a 1000 geographies*, 2000 (no. 217, 1997).

10.89. Buckminster Fuller: "Study of natural patterns." (J. KRAUSSE & C. LICHTENSTEIN: R. Buckminster Fuller, ed. Lars Muller, Baden 1999).



that movement. Whereas the ground floor (living room, kitchen, bedrooms) is ordered into parallel bands occupied by functional containers (kitchen, stairs, bathrooms), the upper floor is ordered perpendicularly to the folds in the roof in order to ensure the entrance of enough daylight.

The system of accessible ramps and terraces defines the meeting point with the landscape, but also with another virtual “geography” that also includes the house – that of the amorphous and changing sky and its clouds, the ultimate rhizome – which is “accessible” through the ramps that make up the roof or by clambering up/scaling a nearby climbing wall.

“The house is like a representation of the world on a scale of 1:1000.”

Both projects are examples of an investigation that is particularly committed to the search for developments in accordance with the processes of natural formations; developments directed at optimizing the application of the notions of recursiveness, resonance and transfer, which are underlying the foundation of this analysis and which are linked to the evolving patterns of the “geological” structures we are considering here.

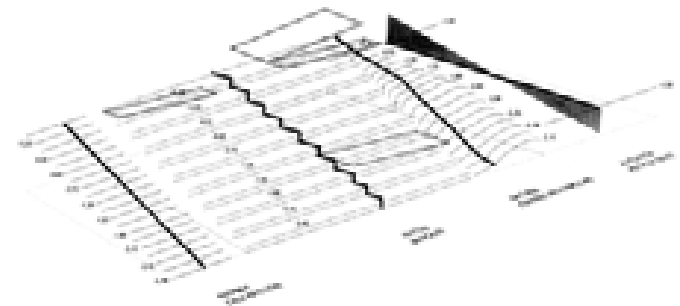
“Mountains are concentrations of natural or artificial energy. They are a-scalar folds in an extra- or intra-urban ground. They are accumulations of matter. Organic or economic. Mountains emerge through a folding of sedimentary strata, as the impact of interior forces or as a magmatic eruption. A mountain has no beginning or end. Its section helps us understand its history. Its near-by and far-off surroundings help us predict its future. Mountains are made as a process, more than a purpose-driven action. They are made with a fractal geometry, which allows for complex relationships between its parts, following a development that is both precise and irregular at the same time.”

It is interesting to point out the possible connection between some of these projects – and other related work – and **Buckminster Fuller's** research on structural processes in the 1960s.⁶²

In all of them we can see an interest in working with basic patterns of weaving, profiles or variable perimeters (based on

bands or meshes) in order to create a-scalar structures with a geomorphic, geodesic and, ultimately, geographic configuration. In this sense, it is also worth highlighting the shared interest of some of these experiments for the processes of natural conformation and their connection to the research areas associated with the structural study of natural patterns and the underlying ideas of structural seed, complex progression, fractal – or pseudo-fractal – cartography, recursiveness and relief, which are so closely related to Mandelbrot's proposals.⁶³

Abstract patterns with the potential to tune in with the place – through the new “reactive” spatial devices we are concerned with here – referring, in turn, to other places, other “situations” or generic “conditions” of the city and the territory; expressing the abstract “processes” that shape them and the concrete processes that demand them.



10.90. Vicente Guallart: House on the City Limits (Valencia, 1995-96). Four strategies for manipulating ground. Schematic.

Next page:

10.91 and 10.92. Vicente Guallart. Urban landscapes (HyperCatalonia Project, 2003).

10.93. Actar Arquitectura. Quartier Europe, Fondation Roi Beaudouin (Brussels, 2003).

10.94. Actar Arquitectura: New inhabited landscapes (HyperCatalonia, 2003).





XIV. *Naturfices*: Operative Landscapes

"Crests", like pinnacles or profiles, "hills" like isolated summits, "peaks" like crosses between "reliefs" and "emergences", "breaks" and "twists" as uneven movements and "gullies" like valleys between rises, create a strange fluctuating vocabulary between the geological, the geographical and the geometric – in short, the "topographical" – which ultimately allow for describing "dispositional silhouettes" and "dispositive relationships" among "rampant", "rough" or "pointed" – information, programs, situations and trajectories – with an analogic and considerably irregular configuration.

Trajectories which allude to these "*Naturfices*" ("*Natuficios*"), as they were labelled by **Eduardo Arroyo**, as reinforcements of the systems for reading and perceiving the surroundings.⁶⁴

Reliefs of public and private uses, conceived as virtual "folded platforms": landscapes inserted into the city and the territory, which trade the traditional operations based on an "occupation/colonization" of the ground for operations based on topographic substitution, recreating and ambiguous "memory" of nature through technical artifice.

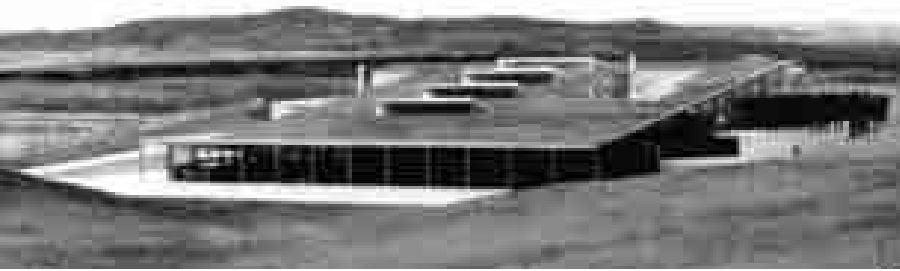
One project that is especially connected to these considerations is the design by **Eduardo Arroyo** and **NOMAD** for the **Auditorium in Pamplona** (1998).⁶⁵

Conceived as a paradigmatic *naturficial topography* between the city and the adjoining landscape, the changes and superficial connections between levels help to create a different way of perceiving the city: an "uneven" roof, resulting from the intermittent "vibration" of the different inclined planes intended to reflect the interior activity, in which the entire organization of the building participates, and to configure a large space that is relational in section: like a large-scale peaked "plateau".

Reliefs as "", in keeping with **Eduardo Arroyo's** designation.

10.95 and 10.96. **Eduardo Arroyo** (NO. Mad Arquitectura). Auditorium and Convention Center (Pamplona, 1998). View of the model. Overview and detail at night.

10.97. **Willy Muller**. Proposal for remodeling the old breakwater (Barcelona, 1998).



A new vision of architecture understood as an (open) "environment" rather than a (closed) "object". The aerial view of two cultural paradigms allows for comparing an exchanging action (figure and ground) with a positioning action (figure against ground).

10.98. Abalos-Herreros: Incineration plant, Valdominguez, (Madrid, 1998-2000).

10.99. Ludwig Mies van der Rohe. National Gallery (Berlin, 1967).

Aerial view with the Berlin Philharmonic in the background.

10.100. Hans Scharoun. Berlin Philharmonic (Berlin, 1967-1968). Floor plan

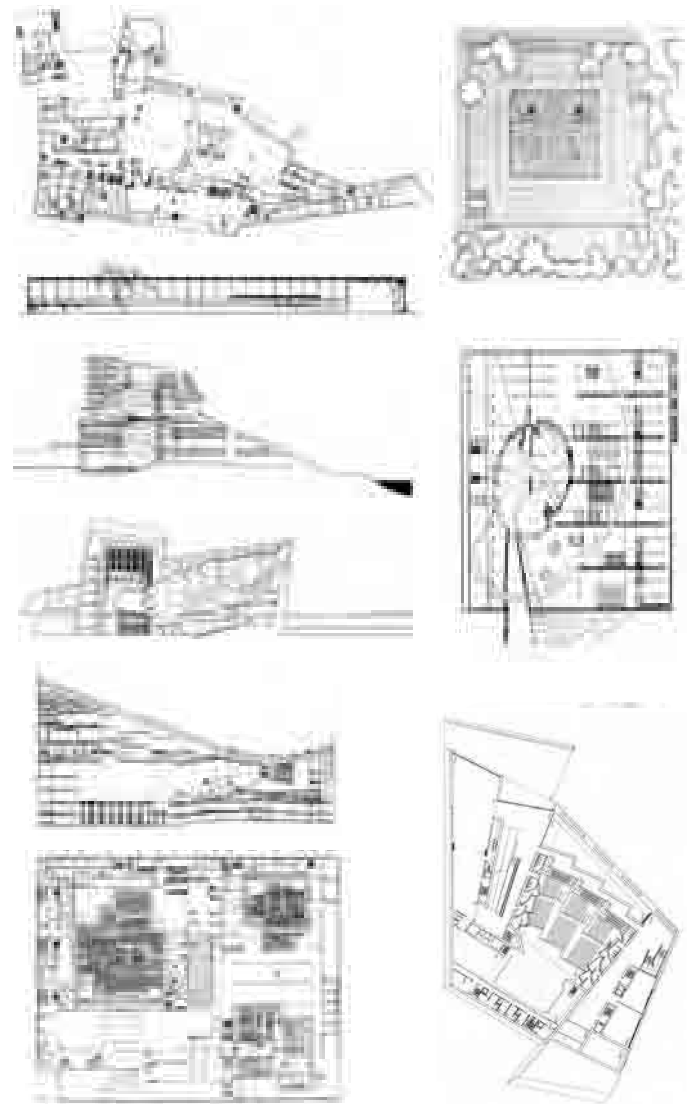
10.101 and 10.102. Ludwig Mies van der Rohe. National Gallery. Floor plan.

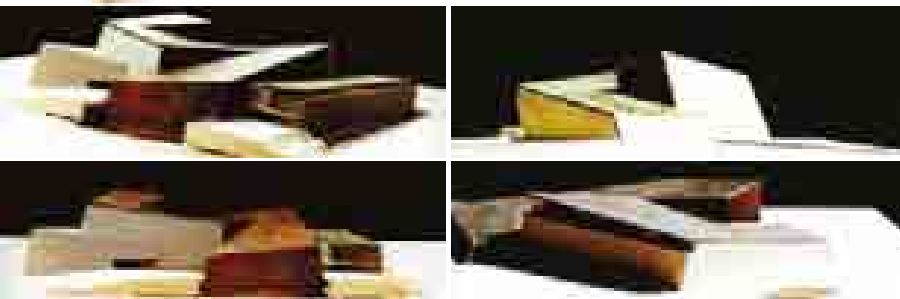
(Berlin, 1967) and Illinois Institute of Technology (IIT), cross-section, 1944.

10.103 and 10.104. Abalos-Herreros. (Bonn, 1997).

10.105 and 10.106. Aranguren-Gallegos. Benidorm Auditorium, 1995.

10.107 and 10.108. Eduardo Arroyo (NO. Mad). Pamplona Auditorium, 1998.





A decisively topographical collective platform, intended to articulate various changing visions, with the potential to capture and catch “all the richness of the surrounding architecture from every time period, each with its own wealth and variety...”.⁶⁶

“Why does the public space have to occupy just 7,500 m² when the exterior space intended for citizens’ use could be 14,000m²?”

Why don’t we understand a building as a continuous leisure space? Today, we can understand the stimulant of changes in elevation as a way of perceiving the city. An ecological roof can be a vibration in the ground, a reflection of the interior activity and the external surroundings [...]; a roof as a public square that can be accessed through gently inclined planted slopes, in a fluid movement that softens the limits between inside and outside.”

The development of this new topomorphic “roof-plaza” organizes the main accesses to the building through the combination of gently inclined plant-covered planes.

Beneath this large artificial faceted surface, we find layers of multiple developments and consistencies. The entire itinerary is understood as a path between programmatic folds, through different planes and slopes.⁶⁷

“On the surface the building is mainly planted, except on the vertical planes which are made of colourful crystalline formations that shine in the sun and transform the topographic movement into the emergence of a fractal kaleidoscope of reflective particles.”

The research work by **Aranguren-Gallegos**, proposed in their series of “**landscape-auditoriums**” (**Benidorm, Pamplona, Leon, 1992-1994**)⁶⁸ and shaped around the possible variations generated by the same dispositive pattern of combinatory “wrinkling”, can help us see a possible family of “enclaved reliefs” which, in more complex programs, can introduce some of these possibilities of geographic breakage, coiling and

10.109, 10.110 and 10.111. Aranguren-Gallegos. Competition for a cultural center and auditorium (Benidorm, 1995) // Competition for a cultural center and auditorium (Pamplona, 1998).

deformation we talked about earlier, although they are defined based on a conception that is voluntarily more “defined” and less “procedural”.

In all of them, the whole emerges as a hermetic solid concrete form, lit and ventilated by different courtyards that tear it and shear it at the same time.

The roof, built in concrete and copper, is folded and bent, which gives it a geological form, allows for the eventual circulation of water and its use for air conditioning.

The new *dispositif* accepts – and adopts – a role that is more “iconologic” than “iconographic”, which can be formulated through varying combinations in different locations and/or situations, like “localized” examples of a single generic species. In them, the building always appears as a strange stranded rock that responds to the city and the landscape, (re)producing a typological container and a topographical profile:

“Beneath this play of inclined, broken, shifting planes, the face of the building and the framework it influences are molded like a field furrowed by its own folds and cuts, in a movement that is fluid, rather than balanced or limited.

A slice of horizon in a mega-built urban landscape.”

These proposals, as operative topographies of projection, explicitly underscore this condition as a “relief of forces” – “fields in fields”...of maneuvers – and its ambivalent relationship with the context.

Both in the case of the two houses by **Vicente Gualart** and the auditoriums by **Aranguren-Gallegos** and **Eduardo Arroyo** – or in other contemporary projects like the proposals by **Willy Müller** for the remodeling of the **Barcelona Breakwater (1999)**, or in the competition for the **Pamplona Auditorium (1998)**⁶⁹ and especially in paradigmatic designs like the ones developed by **Actar Arquitectura** in their **Inhabited Landscape proposal (HyCat, 2003)** and the **Sociopolis (Valencia, 2003)** and **Ele(m)mental (Madrid, 2004)** housing projects – we see this “topo-” and “icono-” logical deployment, based on the idea of “programmatic reliefs” interpreted as ground that is “displaced” toward the roof,

as though the building had “broken” its initial basic –abstract – geometry vertically, in order to adopt a new code with the potential to process information from the surroundings outlined using trajectories of variable oscillation, generating unexpected enclaves conceived as “operative landscapes”: hybrid constructions – or architectures that preserve – or recreate an accentuated “landscape” condition, in a “naturficial” way, for use, activity and functional effectiveness.

As highlighted by **Iñaki Ábalos** and **Juan Herreros** in their reflections concerning a possible “technonature” or “ecomonumentality”:⁷⁰

“The work of architects should take advantage of more intense ways of describing the contemporary idea of nature, understanding it as an eminently cultural construction meant to create a cosmogony and give it a physical form.

As working material, an environmental sensitivity is interesting when we cross it with its apparent opposite, artificiality, as the raw material for creating new paradoxes and new questions [...]

In this two-fold movement, from nature to design and from design to nature, an “ecomonumental” condition emerges, which has begun to take root decisively in the present.”

Ábalos-Herreros applied these reflections in various projects, among which we should highlight the **incineration plant in Valdominguez (Madrid, 1998)** – a technical installation with a roof that is “given” to the landscape – and, in a more radical way, the aforementioned project for the **Architekturforum (Bonn, 1997)** – a mixed-use stacked volume in the form of an urban mountain – and their well-known **Green House** or **Grass House (Madrid, 2001)**.

To paraphrase Florian Beigel:⁷¹

This new type of “*naturfice*” or “*naturartificial landscape*” which we see here is a large-scale landform intended to propose not just a hybrid fusion between the natural and the artificial, but the possibility of a new aesthetic – or “iconological” – vision of the milieu.

A landform or a landscape that works on different scales (from the territorial scale to the urban scale) and which only confirms that possibility of proposing a new type of – explicit, rather than metaphorical – “architectural landscape”, which always derives its motivation from a context that is conceptually broader than that of the terrain or the place where it is inserted, without giving up on establishing a unique “specificity” in and with them.

These “tectonics” of the landscape refer to the morphology of the ground, the terrain, as a platform that can be modified, again:



“In landscape design, the ground is the most important element. Landscape designing is ground designing – multiple grounds, suspended ground. Landscape is the abstraction of landscape. Landscape is the artificiality of land and of nature. [...]”

If you then look at the design of Rem Koolhaas.

In this sense, it is also worth noting how **Hans Scharoun** described his design for the **Berlin Philharmonic** in the brief he presented for the competition:⁷²

“The conception of the building does not start from an aesthetic formula, but from the event of the concert. [...] The auditorium takes its shape from an idea of landscape. It is meant to be a valley at the bottom of which the orchestra is placed, surrounded by rising vineyards. To this landscape, the ceiling forms a skyscape.”

10.112. Shai Yoh: Topological surface.

10.113. A folded layered surface in the cliffs of Dorset.

10.114. An artificial enclave as an inhabited rocky landscape (in Klaus MERKEL, ed. Lars-Müller Pub., Baden, 2000).





The images illustrate the hybrid condition of most of the enclaves analyzed here, halfway between natural and artificial, horizontal and vertical. Also, the condition of "ground that is shifted in height", toward a roof that becomes a relational landscape. Sky and ground at the same time.

10.115 Eduardo Arroyo (NO, Mad Arquitectura): Pamplona Auditorium, 1998.

10.116. Actar Arquitectura. Sociopolis Project, 2003-2004.

10.117. Vicente Gualart. House on the City Limits (Valencia, 1995-96).

10.118. njiric&njiric. Baumax Shopping Center (Maribor, 1998).

10.119. MVRDV (Maas-van Rijs-de Vries). Villa VPRO (Utrecht, 1993-1997).

XV. (Re)folding Devices

A more abstract interpretation of most of these considerations is put forth in many of the proposals developed by the architects **njiric & njiric**.

Their direct diagrammatic responses (as diagnoses which are immediately specified in “spatial actions”) generally respond to these strategies of fluctuation – “refolding” or “coiling” of the landscape, ultimately a fold – which we have pointed out all throughout this chapter and which could be intuited, in a very incipient stage, in their proposal **“Folding” (Glasgow, 1996)**,⁷³ where they tried out a possible “atomized order” (related with processes of light and low density colonization of the territory) generated through a system of enclaves conceived as “small artificial deformed basins” inserted in a host landscape (a variation on the idea of commensalism).

The natural landscape appears as an open and unambiguous space, hardly modified – unsubdivided – that has only been appropriated through slight, low-density, reliefs “adapted” to the terrain (through delicate work in section) configured as artificial “layers” overlapped and slid across the landscape that houses them.

In the **Baumax shopping center (Maribor, 1997-1999)**⁷⁴ the urban concept inverts the traditional “figure-ground”, “object-ground” relationship of large-scale hypermarkets and suburban shopping centers, promoting the movement of traffic through a large access ramp, which articulates a strange “regular magma”, in plan, above la “irregular shape” of the plot.

The roof also becomes a complex topography of ramps and counter-ramps, developed over a virtual “basic box”; an image that is reinforced by the green treatment of the roof, conceived as a new ground that is raised and accessible.

The paradigmatic approach of the shopping center reinterpreted from its essential condition as a junction of flows is combined with the idea of relief, creating this hybrid situation of a localized

and coiled enclave, which we mentioned earlier.

This progressive “decoding” of the “landscape” morphology is taken even further in the case of the **Hortus Sanitatis university building (1997)**.⁷⁵

The proposal is conceived as a “compressed landscape” (a virtual “compression” and “extension” – direct, compact and interiorized – of the neighboring botanical garden): the building is folded into the park and signals a “passage”, a landscape and an urban setting.

An irregular relief in a regular enclave that is crossed by “routes” and paths:

“The ‘every day’ route as the shortest and most efficient path for professors and students; the ‘belle vue’ route for visitors. The ‘public’ route as an open path through the house; the ‘homeopathic’ route as an itinerary through the botanical hanging gardens.”

The building is the result of the logical rolling of all these landscapes and roads “wound up and condensed” into an abstract transparent box, which reveals a strange vegetation made up of trees and plants that are arranged randomly in its interior and where the façade appears as a strange transparent skin between the interior “natuficio” and the exterior nature. The **Hortus Sanitatus Building** summarized many of the investigations we have presented here in emerging as an analysis of flows, linings and folds, but also as a hybrid operation that relies on an architecture of flexible envelopes, skins and membranes (folded, refolded or, in this case, unfolded), which have the potential to “intersect”, to “bend” and to be “engraved” with events.



10.120. njiric&njiric: Baumax Shopping Center (Maribor, 1998). Diagram-refolding concept.

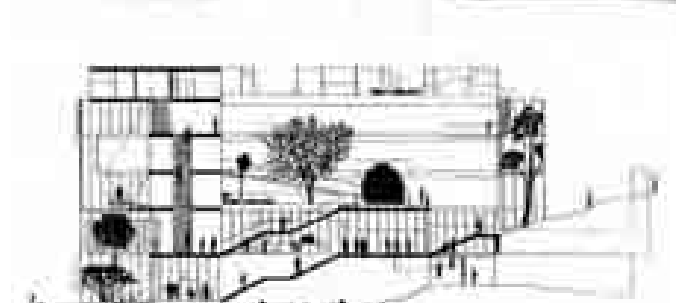
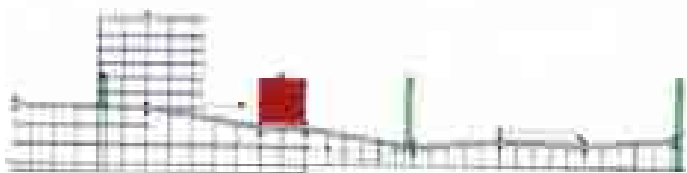
The intentional use of the “ideogram” as an abstract “programmer” allows from “compressing” the design strategy, in this sense, approaching it from beyond a purely architectural or “territorial” scale.

The importance of the diagram as a “basic decision map” is especially revealing in a proposal that is meant to be operational and conceptual at the same time, as we see the operation of “wrapping” between the building and the landscape in a similar way to what was put forward in the residential proposals for **Glasgow** (like a based equation of “emergence” and “disappearance” on the terrain) or in the large-scale **operations for Maribor** (based on the restructuring effect of two juxtaposed landscape “pods”).

In most cases, the “cross-section” expresses the articulating capability of the proposed dispositif, like a scanner of the process itself. Whereas in **Hortus**, the strategy takes on a more abstract and virtual character, in **BAUMAX** it reveals its more explicit appearance: that of a relief that is both artificial and effective – a contemporary “econature” that is decisively bold in its expression.⁷⁶

“There has been some talk about architecture conceived as “folded architecture”. It is architecture that proposes an envelope, but which also unfolds, refolds, retracts to extend again. Architecture that displays the interior in a permanent exchange with the exterior. Envelope made interior. Once inside, we find ourselves in a continuous interior, or in an extendable exterior, according to how we look at it.”

In many of these proposals, there is a literal desire to capture the significance of a city that is necessarily hybrid, ambivalent, where it is difficult to classify spaces, “*architecture that, sometimes, seems like a real tautology of itself.*”⁷⁷



10.120. njiric&njiric: Baumax Shopping Center (Maribor, 1998). Cross-section.
 10.121. njiric&njiric: Baumax Shopping Center (Maribor, 1998). Initial model.
 10.122 to 10.123. njiric&njiric: “Hortus Sanitatis” university building (Zagreb, 1997). Elevation and cross-section.



MVRDV (Maas-van Rijs-de Vries): Villa VPRO (Utrecht, 1993-1997).

The design is conceived as a linking dispositif between the landscape, the objective data of the program and a strategic folding movement.

10.123. Interior view // 10.124. Folding mechanism.

In this sense, we could extrapolate – and maximize – the previous approaches and relate them to a very unique case: the **Villa V.P.R.O (Utrecht, 1993-1997) by MVRDV (Maas-van Rijs-de Vries)**.⁷⁸

Here it is also worth pointing out an unexpected enclave that is conceived as a compressed relief and a functional fluctuation at the same time.

The design is identified as an effective interface between the landscape, the objective data of the program and a simple folding mechanism: a “specialized spatiality” with a “semi-automatic” configuration, in the designers’ words.

The whole can be described using terms like “compression” (elimination of paths), “differentiation” (a large number of different spaces) and “relationships” (with the surrounding landscape and between the landscapes it generates). Whereas the required “compactness” of the building, which results from the regulations, requires proposing a wide and deep volume, its “hollowed” conception – plowed through with holes and courtyards proposed as bits of landscape absorbed in a serpentine shape (sucked or inhaled toward the inside) – supports a continuous back-and-forth “between” and “toward” grounds, exterior and interior, thus multiplying the presence of an “outlined” natural light.



The result is a strange “multi-landscape” office, with an open plan, where there are hardly any differences between exterior and interior; or they are vague. The old vegetation on the plot is transferred to the raised roof, covered with grass, beneath which we see an unexpected geological formation made up of differentiated layers and floors.

They appear to be interconnected through a wide variety of spatial mechanisms that are conceived flexibly: ramps, planes, small concrete dunes or folds, etc.

As pointed out by Roemer van der Toorn:⁷⁹

“The Situationist drift that aimed to undermine and radicalize the dominant culture of consumption and the flexible vagueness of our second modernity overlap so “cheerfully” [in the VPRO premises] that it results in a new, more open way of working, both individually and collectively. It provokes the users to rethink their way of working together and alone. [...] The user is positively invited to install him/herself interactively and in a relational way in this folded landscape. [...] This building is a synthesis of a natural setting and the hectic landscape of information technology all over the world.”

The widespread interest in the proposal for the Villa VPRO lies precisely in this unusual (and explicit) manifestation of the building as a strictly informational landscape, a datascape or a “landscape of data” (of information and demands) and as a “relaxed” (or “loosened”, i.e., flexible and uninhibited at the same time) informal landscape of events.

A bastard cross between heterogeneous nature and synthetic artifice, but also a dynamic form(ul)ation, freed from any linguistic or compositional predetermination, which is presented as a mechanism which is both implacably strategic and poetically expressive; it narrates its own generic and specific logic, but it also talks about the freedom of information and opinion that is characteristic of a society open to interaction – the same philosophy pursued by the VPRO organization: an operation in “abstract” resonance with the global surroundings and in

“sensual” transfer “in” and “beyond” the local context.

The building is completed by a small adjoining pavilion, a thick ground for auxiliary services (like a virtually “unbuilt” “built” area). This annex ensures an effective link with the nearby park, in that it is proposed as a tunnel, on the roof of which the space continues (“*neutralizing the threat of future built volumes which might disturb this green space*”); a thick ground intended to complete this hybrid operation of topographical variation and reinterpretation between “interior” and “exterior”, “nature” and “artifice”, “construction” and “landscape”, which is taken to an extreme, later, in the same team’s proposal for the pavilion of stacked gardens (“a piled-up nature”) designed for the **2000 World’s Fair in Hannover**⁸⁰ or the more recent and literal proposal for the new headquarters of the **Swedish Postal Service, Silicon Hill (Stockholm, 2000)**.

We could compare the “compressed landscape” of the **Villa VPRO** with the “stacked nature” of the **Hannover pavilion** or the exaltation of this preserved/modified landscape that is implicit in the “infiltrated” relief of the Swedish project, and consider them as extensions of the same hybridizing and unprejudiced logic, intended to instrumentalize the multiple imagery of the natural sphere – as a symbol – while also highlighting the irregular, heterogeneous and, ultimately, artificial “nature” of the contemporary geo-urban scenario:



MVRDV (Maas-van Rijs-de Vries): Villa VPRO (Utrecht, 1993-1997).
10.125. Exterior support building

MVRDV (Maas-van Rijs-de Vries): Villa V.P.R.O.Utrecht, 1993-1997.

10.126. through 10.131.: The building as a compressed : different stratified stages/spaces in the relation exterior/interior.

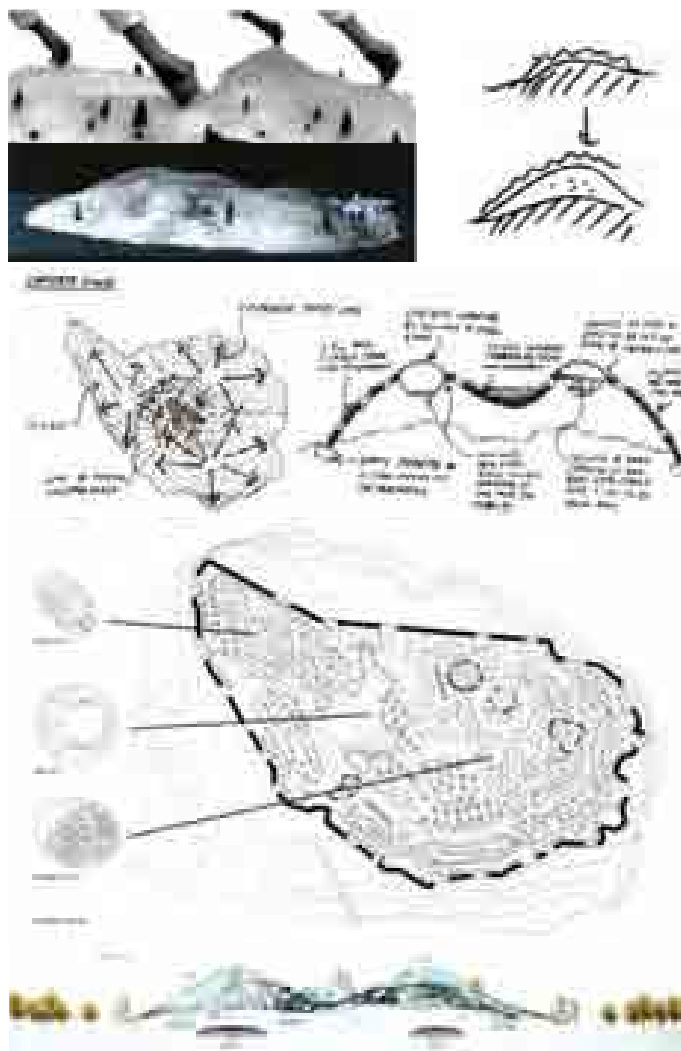




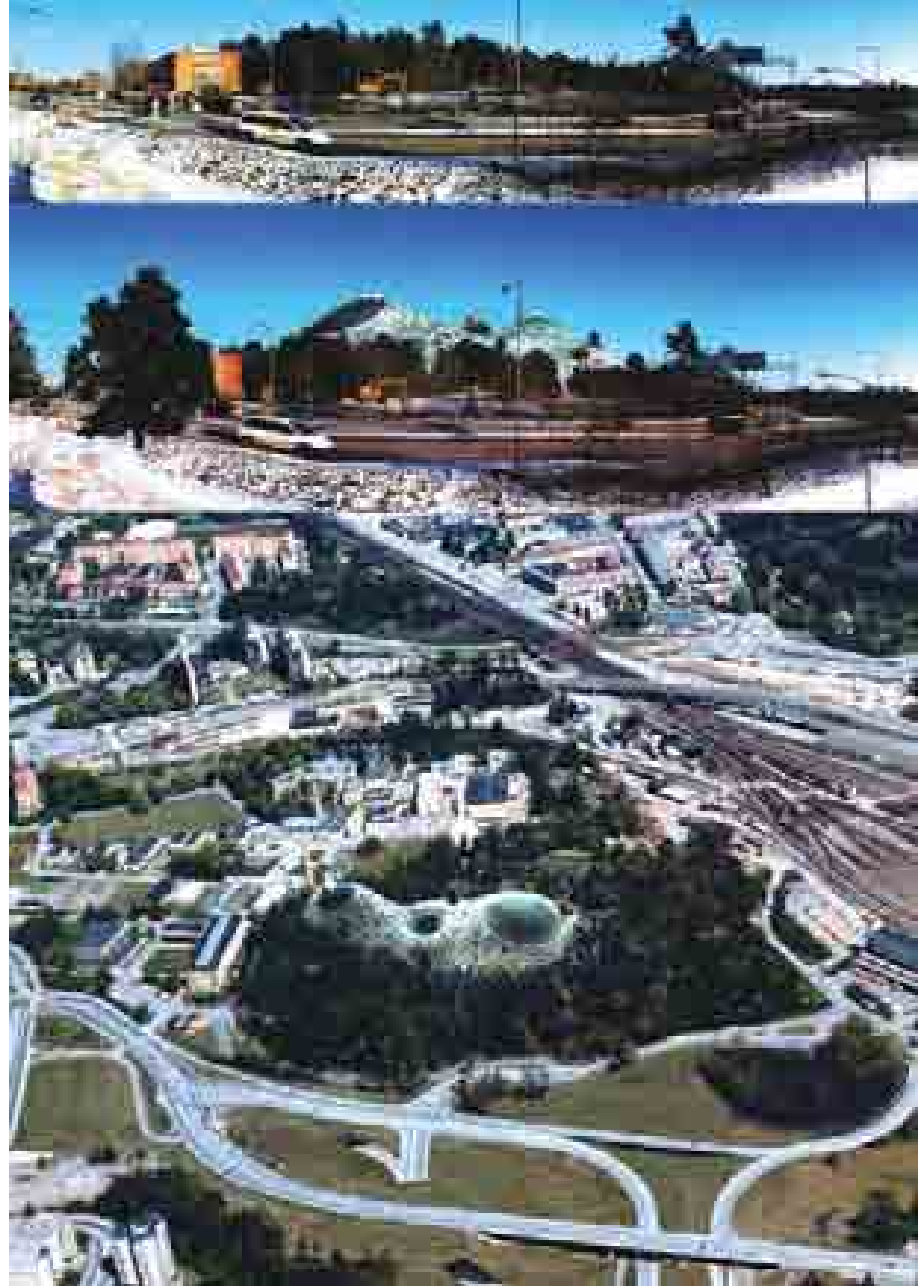
It is interesting to compare the "compressed landscape" of the Villa VPRO with the "stacked nature" of the Holland Pavilion for the 2000 World's Fair in Hannover and to consider them as extensions of the same logic based on unprejudiced hybridizing between the natural and the artificial.

10.132. MVRDV (Maas-van Rijs-de Vries): Stacked nature.Holland Pavilion for the 2000 World's Fair in Hannover.

10.133. MVRDV (Maas-van Rijs-de Vries): Villa VPRO (Utrecht, 1993-1997). West, north and east façades as landscapes of relief and refolding.



10.134. MVRDV (Maas-van Rijs-de Vries): Infiltrated nature. New postal service headquarters (Stockholm, 2000). Initial work-ups for the whole and general views.





"Is it possible to combine increased concentration with higher standards of living? And what potential conditions would produce this concentration? What role would nature [...] play in this concentration? Would this not mean a 'new nature' in both the literal and the figurative sense?

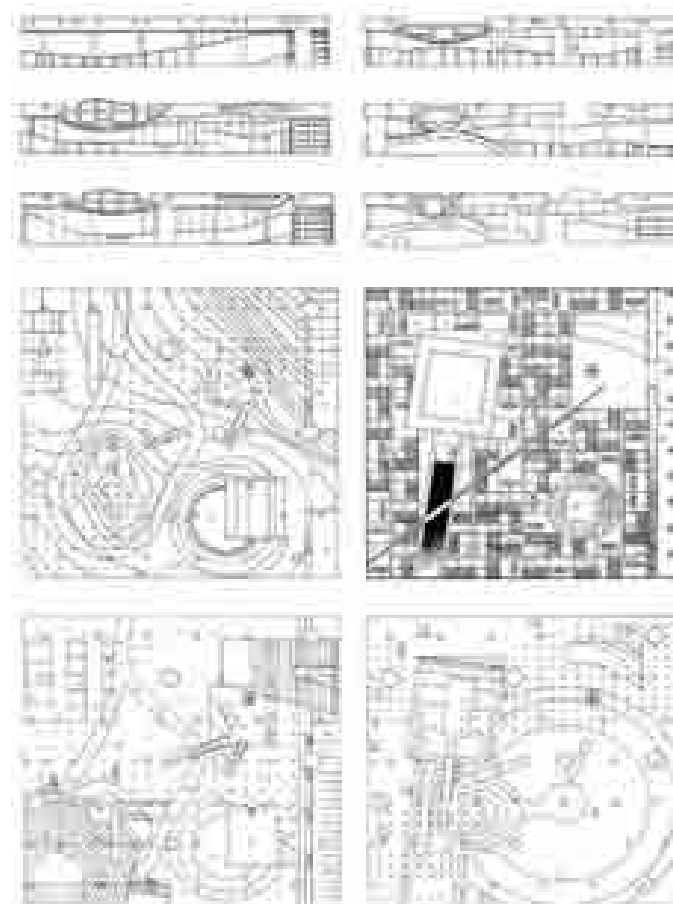
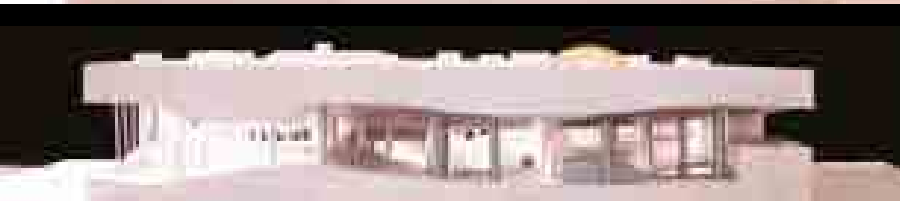
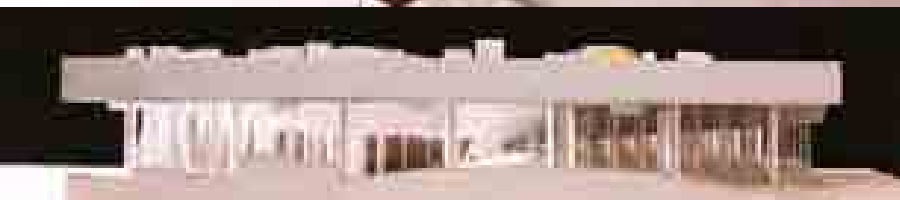
[...] There is no need for technology and nature to be mutually exclusive; they can actually back each other up. [...] And this makes it a symbol of communal living: it produces the paradox that an increase in differences seems to actually increase points of connection."

Obviously, this "operative compression" of the landscape can easily be related with some of the precursor investigations developed by the **O.M.A.** team throughout the same decade. Perhaps one of the first and most suggestive approaches – which was still incipient in its intuitions, though it was certainly innovative and surprising for the radical "directness" of its formulation – was the design for the **hotel complex in Agadir (Morocco, 1990)**,⁸¹ an enormous parallelepiped intended to house a rich universe of landscapes in an unheard-of combination.

The project was proposed as an architectural expression that was "negotiated" between the ambitious and large-scale program and the beauty of the site. The undulating landscape of the desert dunes and the beach are extended in the ground floor through internal "hills" and "valleys" that articulate the space and house the new convention center, generating an artificial relief of basins and plateaus, of domes and rays of light like "a modern interpretation of Islamic space".⁸²

The proposal can be read as a single dispositif divided into two parts: a functional roof (a thick "carpet" which houses the hotel rooms) and a landscape plinth (a "relief" which articulated the large relational public space).

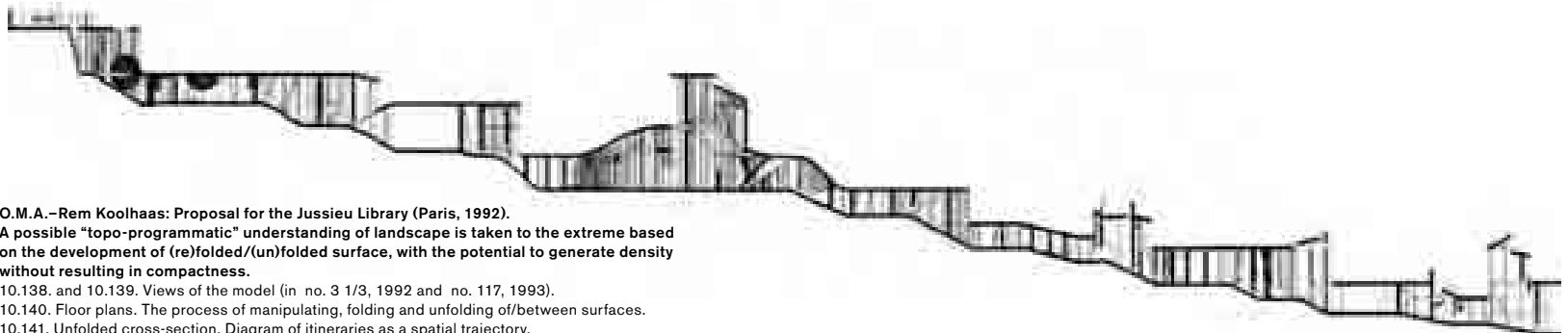
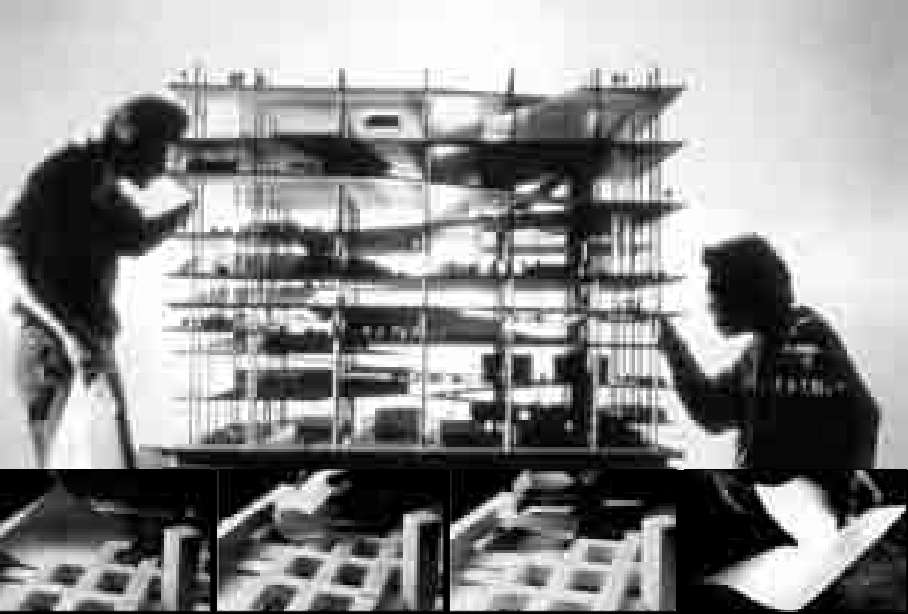
Both layers shape a strange enclave on the beach, with views of the sea, which maximizes their hybrid condition, halfway in between the topography and construction, in terms of the disposition that is addressed and developed.



O.M.A.–Rem Koolhaas: Hotel complex in Agadir (Morocco, 1990).

10.136. Model of the whole, an operative topography with a variable trajectory.

10.137. Floor plans and cross-sections. From left to right and top to bottom, urban square, hotel, convention center and roof level with the casino and royal suite.



O.M.A.-Rem Koolhaas: Proposal for the Jussieu Library (Paris, 1992).

A possible "topo-programmatic" understanding of landscape is taken to the extreme based on the development of (re)folded/(un)folded surface, with the potential to generate density without resulting in compactness.

10.138. and 10.139. Views of the model (in no. 3 1/3, 1992 and no. 117, 1993).

10.140. Floor plans. The process of manipulating, folding and unfolding of/between surfaces.

10.141. Unfolded cross-section. Diagram of itineraries as a spatial trajectory.

In fact, this idea of a possible “topographical understanding”, intuited in Agadir, is carried further – with decidedly radical results – in the different proposals for the **Jussieu Library (1992)**.⁸³

Conceived based on surfaces that are (re)folded and (un)folded simultaneously on top of one another and on the site, and expressed as veritable “magic carpets” with the capacity – like in layered structures – to “generate density without resulting in compactness”, the different developments end up producing virtual enclaved landscapes made up of platforms and grounds that are piled up and hollowed out, overlapped and interwoven – with hardly any closure in and between them – which transform the building into the expression of its own dynamic substance: concentration and expansion; building and landscape.

Projects that are proposed based on an implicitly “organic” development, like dynamic, continuous and disjunctive, trajectories, with a non-linear evolution, that cross through layered bundles of nearly horizontal planes, connecting levels and spaces via a large “multi-level” ramp, which interweaves the different meshes of pillars that are “incidental and random in their arrangement”.

The real paradox, then, is that different unfolded levels end up being equal to a single refolded level.

This vertical twist or swirl could be considered a complex and paradoxical relief – free and enclosed, unfolded and refolded – intended to be colonized (urbanized) by the elements of use and storage for the library – furniture, shelving, etc. – which work, in this immense landscape, as city buildings in a new a-scalar “territory”:

“The visitor becomes a Baudelairian flâneur, examining and being seduced by a world of books connected to the urban setting.”

The project, as an exterior space coiled in an interior, can be

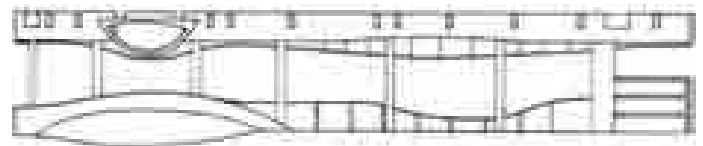
read from what is grasped in other areas (from the relationship between the place and the landscape and its relationship with objects and things) that call for architectures which are proposed as “landscape episodes” with rousing precedents like the **Hans Scharoun’s National Library and the Berlin Philharmonic** or the **Chandigarh Palace of Assembly by Le Corbusier**.⁸⁴

Enclaves that define a place, where the unexpected events of the floor plan are accidents or occurrences created “in” and “from” the landscape.

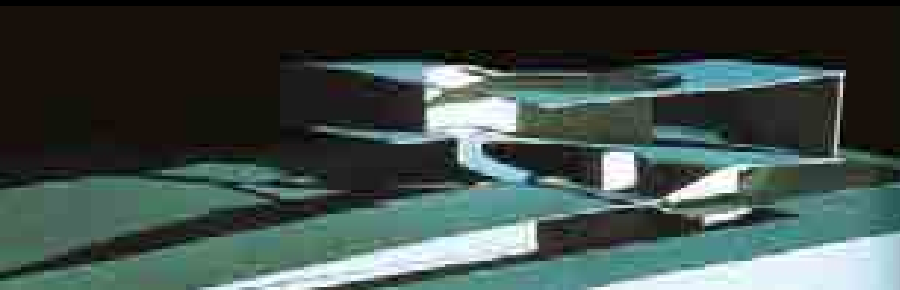
However, what was still structural and/or spatial research in **Agadir** or **Jussieu** became direct interaction with information in the **VPRO building**: an immediate response to an objective and directed processing of specialized data.

The idea is not to conceive “buildings like landscapes” but to generate landscapes of data (“datascape”).

From this point of view, architecture begins to respond to different kinds of architectural paradigms, based on the assumption of this new “nature” that is, indeed, related to the landscape, with the “topos”, but also with a flexible strategy that is conducive to form (based on the effectiveness of the “process-trajectory-object” relationship) and, therefore, with a “subjective objectivation” of information – as “infrastructural data” – which we will address later on.



10.142. O.M.A.–Rem Koolhaas: Hotel complex (Agadir, 1990). Cross-section.



XVII. Loop Landscapes

Three residential designs by **UN-Studio (Van Berkel & Bos)** let us introduce some of these questions in a paradigmatic way. They are designs that create synthetic, strategic and diagrammatic “folds” in a ground that is modeled and/or energized by movements of fluctuation, linkage and looping (“coiling” and “knotting” at the same time), as the flexible materialization of information that is both global and localized at the same time.

Whereas much of UN-Studio's investigations are oriented explicitly toward the conception of possible complex systems which give preference to infrastructural patterns, we are interested in highlight the combination between a “matrix-like”, topological and fluctuating logic, and this assumption of an “instrumentalized landscape” which are both implicit in their work based on “localized development and coiling”. In the pioneering design for the **Villa Wilbrink (1992-94)**, halfway between “ground” and “enclave” – inhabited space and open space merge together in a combination of floor plans where the ramped roof, on the zero level, also becomes a platform for use, an operative surface and an abstract “ground”: like a still ambiguously “vacant” lot, in the midst of a dense urban development.⁸⁵

The tactical decision of the proposal is derived, largely, from a unique situation: the owner's dislike of gardening.

Reaching to the edges of the buildable plot, the design occupies as much of the terrain as possible. The house is the garden.

This disposition of a “thick carpet” decides the occupation of the plot and the interior distribution of the dwelling. The entrance is created, like a fault line, between two oblique walls which break

Three residential designs by UN-Studio (Van Berkel & Bos) based on “strategic folds”
10.143. Moebius House (Het Gooi, The Netherlands, 1993-1997) // 10.144. Villa Wilbrink (Amersfoort, 1992-1994) // 10.145. Dream House (Düsseldorf, 1995-1996).

up the ground and provide access to a sunken courtyard, articulating the space through a movement of localized “coiling”, where innovative materials and conventional materials are combined, maximizing the effect of intrigue and spatial ambiguity that are highlighted in the design.

In the theoretical proposal **Dream House (1995-1996)**⁸⁶, the concept from the **Villa Wilbrink** is taken to the extreme to reach a fluid continuity between exterior landscape and interior.

The traditional zoning – the “interior-exterior” separation, but also the “confrontation” of vertical planes and horizontal planes – is dissolved through the introduction of a diagonal space (a loop or a three-dimensional tie). Functions and “infrastructure” are thus organized simultaneously:⁸⁷

“The living room extends into the garden and the garden into the living room... Stairs become ramps and ramps become landscapes... The floors are interpreted as undulating layers, rather than flat surfaces.

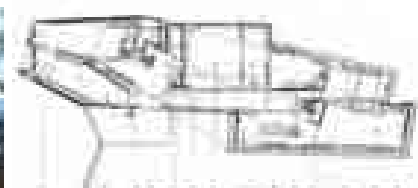
The central void appears as an empty eye, around which a multi-layered space spins like a mineral whirlpool.”

Obviously, here we can see clear connotations of the idea of a flexible mesh, a knot, a loop (or refolding), which we referred to in the previous chapter. However (as in the case of the Moebius House), what takes priority in this design is their condition as a localized relief, in highlighting their “topographical” nature rather than a “matrix-like” characteristic. In this sense, the well-known **Moebius House (1993-1997)**⁸⁸ works as a large “connecting

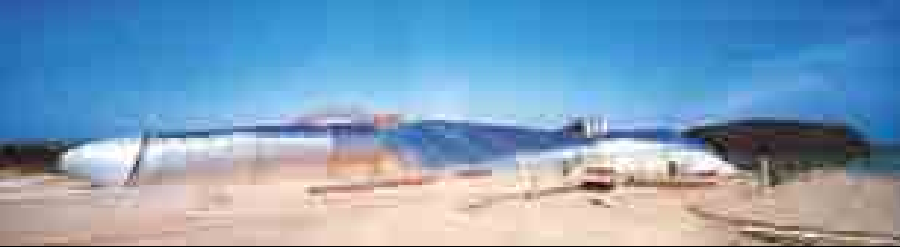
enclave” a “naturartificial” interface between different demands from the surroundings; the “spatial loop” conceived in this way allows for “traversing” the different episodes of the exterior landscape (because it extends as far as possible in the site) like a strange wooded circuit: a “path” (a walk) materialized in a localized “field” where the geometry of a virtual Moebius strip combines program, circulation and structure, without any seams. The house intertwines uses and diversified situations in a single infrastructure: the “diagram of a bull”, doubly coiled, expressed the organization of the design around this double interwoven path, which articulates situations of relation and independence in a flexible contract between two areas and two individual and blended universes, which are independent and dependent at the same time. The designers themselves highlighted how the abstraction of the ideogram allows for instrumentalizing the different options in an “operative graphic representation” – the Moebius strip, as a nuclear “attractor” – which takes on a space-time dimension.

The Moebius model is not translated directly, but it remains present conceptually, organizing the program:

“The idea of two entities running their own trajectories but sharing certain moments, possibly also reversing roles at certain points, is extended to include the materialization of the building and its construction. The structure of movement is transposed to the organization of the two main materials used for the house, glass and concrete.”



10.146. UN- Studio: Moebius House, floor plan and overview (Het Gooi, Holanda, 1993-97).



10.147. Kas Oosterhuis-NOX: Pavilions for the Deltapark (Neeltje Jans, the Netherlands, 1997). Arranged in a landscape of natural and artificial dunes, the buildings appear as a mechanical wave, a prosthetic dune or an operative fluctuation.

XVIII. Shifting Fluctuations

Most probably, this “material entanglement” manifested as an expression of a direct interaction among information, digitalization, landscape and architectural space, took on its most radical expression in the **two pavilions for the Deltapark (Neeltje Jans, 1997)** designed by **Kas Oosterhuis** and **NOX**, respectively, at the end of the 1990s.⁸⁹

Arranged in an area of dikes on land reclaimed from the sea, with natural and artificial dunes, the buildings appear as parts of a mechanical wave: a prosthetic dune, a frozen wave, an operative fluctuation, ultimately.

This organic metonymy doesn't only respond to natural analogies, but to the ability to mold the architecture through a new “genetics of form” based on structural animation, processing information and a multiple interaction, produced on all levels (with the place, with the medium and with the user). The **Fresh H2O Expo Pavilion** project – the fresh water exhibition pavilion – responds to an ambitious program conceived beyond the static notion of “museum”.

The space doesn't “contain” an exhibition – in the traditional sense; rather, it combines images and sounds that emerge and depend on the movements and actions of the visitors themselves. Like inside a wave, the ground, walls and ceiling blend together; nothing is horizontal or vertical:

“Where one is not able to grasp the horizon because there are no windows, walking becomes related to falling. At each moment [...] you are placed on a vector like a skateboarder, relying on your own motor system and haptics to keep moving. [...] With every step, the body receives different information from the building. When the architecture is animated, the body will be too – part of the action is already in the form.”

A series of sensors are installed throughout the building, connected to three different interactive response systems, a real-time animation system connected to a series of LCD projectors and a sound system intended to create real transformations in the interior “atmosphere”.

As Kas Oosterhuis pointed out:⁹⁰

“We view the artificial mass that we, humans, create as an extension of natural ecology. We no longer think of the ‘artificial’ and the ‘natural’ in antithetical terms. We regard the omnipresent artificial world, the global synthetic system, as one immense complex organism. Cities, buildings, cars, engines, computers, chips; they are all participants in the global organism. [...] The role of people in this artificial structure is interesting: they are the enzymes, the carriers and begetters of information. [...] We humans are simply the information elements in the system. Which is why we get on so well with computers, [...] [designing] in the round rather than from the ground up. We have done away with the domination of platonic volumes.”

In the same way that the interior space is no longer a static space, the traditional and simple geometric forms (cube, sphere, cylinder and cone) can no longer be the basic configuring elements of the architecture, from the standpoint of a “dynamic protologic”.

The cube as an exception among irregular polygons, the sphere as an exception among drops or fluid lumps, are only abstract limitations of possible dynamic formulations.

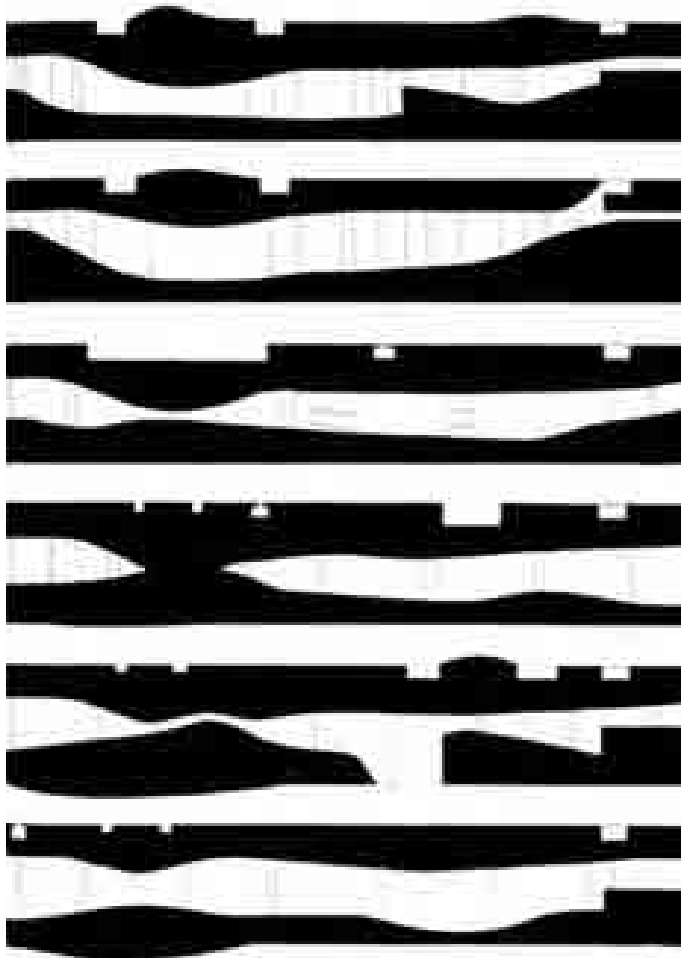
Computers allow for this (other) possible evolving use of information, not just in buildings with “genes for form” but also with “genes for information”, which are global and local, social and anthropological; for memory, for behavior and for meaning. As Lars Spuybroeck (NOX) pointed out:⁹¹

“We are experiencing an extreme liquidizing of the world, of our language, of our gender, of our bodies. A situation where everything becomes mediated, where all matter and space are fused with their representations in media, where all form is fused with Information. We are shifting from matter to substance, from solidity to grain and resolution. [...] The liquid

Processes of dematerialisation, environmental interaction and spatial reactivity.

10.148. Blur Pavilion, Diller & Scofidio (Yverdon-Les-Bains, 2002).

10.149. Kas Oosterhuis and NOX: Pavilions for the Deltapark (Neeltje Jans, 1997).



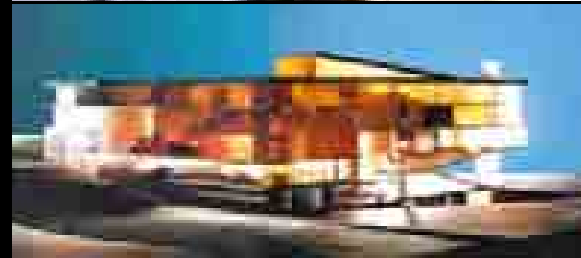
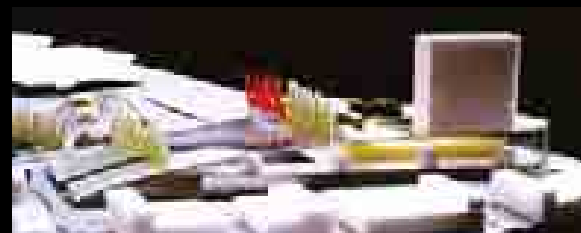
10.150. Rem KOOLHAAS, OMA: Agadir Convention Center, 1990.
Diagrams in "topo-programmatic" serial-sequences of development and transversal section.

in architecture not only means generating the geometry of the fluid and the turbulent, it also means dissolving all that is solid and crystalline in architecture. The fluid merging of action and form, which is called 'interaction' because the point of action lies between object and subject, starts out from the orthogonal basis of perception with the horizontality of the floor perpendicular to the verticality of the window. By merging floor and wall, by merging floor and screen, surface and interface, we will leave the mechanistic view of the body for a more plastic, liquid and haptic version where action and vision are synthesized.

The water pavilions constitutes a morphogenetic relief, a "fluctuating and active" ebb tide that announces a kind of architecture that is decoded from the traditional conception of space. A literally "reactive" architecture, where the manifestation of the building as a dispositif no longer responds only to visual and/or virtual, symbolic and/or metaphoric interactions, but also to real interactions with the milieu and with the individual.

This hybrid condition, between the real and the virtual, underlies the general conception of the pavilion – an apparently single object that is, however, diverse; a "hybrid" landscape generated by two authors, two bodies, two trajectories, two formulations; a fluid enclave and a tactical assemblage between different demands that are both "dissimilar" and "combinable" at the same time.

Form and space – as virtually dynamic "actions", "wills" or "states" – make way for a "truly", i.e., "authentically" dynamic spatiality – and form; they are variable, changing, ultimately interconnected with this other hypothetical process of transformation and (inter)change, which accompanies a flexible organization that is sensitive to the potential flow of information that is processed and directed.



- Images of different models as a kaleidoscopic landscape of reliefs and topographies.
- 10.151. Vicente Gualart: House of Seven Summits (La Pobla de Vallbona, Valencia, 1998).
 - 10.152. Vicente Gualart: House on the City Limits (Valencia, 1995-96).
 - 10.153. Eduardo Arroyo (NO. Mad Arquitectura): Pamplona Auditorium, 1998.
 - 10.154. Vicente Gualart-Max San Julián: Convention Center (Pamplona, 1998).
 - 10.155. UN-Studio (Van Berkel & Bos): Villa Wilbrink (Amersfoort, 1992-1994).
 - 10.156. Aranguren-Gallegos: Cultural Center and Auditorium (Benidorm, 1995).
 - 10.157. UN-Studio (Van Berkel & Bos): Moebius House (Het Gooi, 1993-1997).
 - 10.158. Abalos-Herreros: Green House (Madrid, 2000).
 - 10.159. njiric&njiric: Baumax Shopping Center (Maribor, 1998).
 - 10.160. MVRDV: Villa VPRO. Office building and broadcasting center (Utrecht, 1993-1997).
 - 10.161. O.M.A-Rem Koolhaas: Jussieu Library (Paris, 1992).
 - 10.162. Abalos-Herreros: Urban waste treatment plant (Valdeminguez-Madrid, 1998).

XIX. Intermediate Epilogue

Most of the proposals we have dealt with in the previous chapters (8, 9 and 10) have been focused, despite their ambiguous iconographic and conceptual nature, on spaces; not objects, but “spaces in-between”: spaces for relation and interaction; spaces of “resonance” and “transfers”, of crossings and crossroads. Spaces between physical “fields” and “fields” of information. Spaces conceived as “dispositional” (reactive and operative) movements: unfolding, refolding or folding. Movements with the potential to synthesize information and tune into the surroundings.

Shoots and grafts, meshes and circuits, knits and knots; grounds and reliefs; “urban crops” and “matrix-like tessellations”; horizontality and topography; “operative landscapes” and “datascape”, different spatial strategies for “sensitive approaches and projection” proposes as the initial explorations to prompt a new operative – and informational – logic, derived from the spatial assumption of complexity and the associated – non-linear – dynamic and interactive processes.

As pointed out by Alejandro Zaera:⁹²

“At this point in time, occupying a spatial position can be as important as maintaining an ideological position was for the avant-garde. If the amount of information produced during the era of late capitalism has devalued representation as a vehicle for communication, the traditional systems of signification or value systems can be replaced by material or spatial organizations that serve as the foundation for communication, exchange and consensus.”

The design responses we have analyzed here have tried to respond in a pioneering and creative way to these challenges, presenting themselves as “dispositional strategies”, i.e., as “structural mechanisms” and “formalizing systems” at the same time: strategies that are characteristic of a transition period, between (disciplinary) formations and (transdisciplinary) formulations.

They emerge from a substantive multiplicity and ambivalence, to promote more complex spatial processes, with the potential to process, organize, structure, formulate and narrate at the same time.

Technical responses, but also cultural ones.

Capable of tuning into a place and transporting it beyond itself, within the framework of processes – and dynamics – that are virtually connected to the awareness of a new idea of the city which is more complex and multi-scalar, i.e., with the irregular and open conditions that characterized the most explicit manifestations of our milieu.

These keys allow us to assert a new desire – that is both more dynamic and more interactive – from which to conceive a new kind of idea and organization of space; fostering the combination of data and (as such) the eventual combination of opposites (“empty-full”, “open-closed”, “interior-exterior”, “natural-artificial”, etc.); turning complexity and mutation into working material; making flexibility and relationships, but also mixtures, impurity and hybridization, into rich and effective actions with the potential to respond directly, imaginatively and uninhibitedly – without pre-established codes, models or prejudices – to the demands of a new irregular reality that increasingly tends to favor a “qualitative contract” – on all levels – between the collective and the individual, the open and the unique.

Between medium and means.

Means and milieu.



10.150. Progressions of geometric development.

1– “The landscape project will have to open up the path between the sensitive and the intelligible, in order to rescue the – still unspeakable – relationship with things. This relationship with things. [...] If common properties exist for terrain vagues, these are their hybrid and heterogeneous characteristics. [...] Topography, great distance, surfaces and their textures, and, as a consequence, new proportions of scale, may provide the elements for an urban and territorial restoration of the city.”

See MORALES, José: “Terrain Vague,” *Quaderns* no. 214, 1996, p.167, 169, 171.

2– See MANDELBROT, Benoît: *The Fractal Geometry of Nature*, op. cit.

3– “The universe of perception has remained subject to the dictates of the visible world, what stands out; unable to deal with the ambiguity of surfaces, it has been limited to defining volumes. Linking a being with its ecosystem allows for connecting built volumes with the host body [...] and realizing that the city is also a plant that needs soil, sky, water, and horizons that can be transformed through actions that are closely related to the topography.”

See ROCHE, François: “Materials: A low-technology inventory,” in *2G* no. 3 (Landscape Architecture), 1997, p. 6-7.

4– See GAUSA, Manuel: “Landscape and architecture, fresh shoots,” *Quaderns* no. 217 (Land-Arch), 1997, p. 51-53.

5– Using various possible translations of the term coined by Deleuze and Guattari.

See: DELEUZE, Gilles and GUATTARI, Félix: *Mille Plateaux*, ed. Minuit, Paris, 1980.

6– See KOGOD, Lauren: “The place of the contemporary project,” *Quaderns* no. 199 (Armadillos) 1993, pg. 51.

7– See an outline of the topic in GAUSA, Manuel: *Housing: New Alternatives, New Systems*, ed. ACTAR, Barcelona 1998.

8– See BETSKY, Aaron: “Landscape and the Architecture of the Self,” *Quaderns* no. 220 (Operative Topographies) 1998, p 28.

See also BETSKY Aaron: *Landscapers: Building with the Land*, ed. Thames & Hudson, London 2002.

9– See ZAERA, Alejandro: “Operative Topographies,” *Quaderns* n. 220, 1998, p 34-35.

10– See F.O.A. Foreign Office Architects: “Reformulating the Ground,” *Quaderns* no. 220 (Operative Topographies) 1998, pp. 36-43. Another version of the same text appears in no. 144 of the magazine *Arquitectos* (1997) and in *Circo* no. 50, 1998.

11– See F.O.A. Foreign Office Architects: “Reformulating the Ground,” *Quaderns* no. 220, op. cit.

12– See DELEUZE, Gilles and GUATTARI, Félix: *Mille Plateaux*, Ed. de Minuit, Paris 1980.

13– For a detailed description of the project see *Quaderns* no. 212 (Water-Land), 1996, pp. 86-93.

See also the catalog VVAA: *Presente y futuros: la arquitectura en la ciudad*, ed. COAC and CCCB, Barcelona 1996.

14– For a description of the project, see *Quaderns* no. 220 (Operative Topographies) 1998, p.36.

15– See SOSA, José Antonio: “Environmental Constructors: From Mat-Building to Programmatic Lava,” *Quaderns* no. 220, 1998, p.90.

16– A term that is very similar to “programmatic lava”, used by José Antonio Sosa. See note no.10.

17– This quote paraphrases different texts by FOA on the concept of “reformulating the ground”.

See F.O.A. Foreign Office Architects: “Reformulating the Ground,” *Quaderns* no. 220, 1998, pp. 36-43 and *Arquitectos* no. 144 (1997) and *Circo* no. 50, 1998.

18– For a description of the projects, see *Quaderns* n. 220 (Operative Topographies) 1998, pp. 48-51 and *The Berlage Cahiers* no. 3 (1995).

19– See SHANNON, Kelly: “Re-Politicizing the Metropolis: The Strategic Project Approach.” Lecture given in the context of the “UIA-Barcelona 96” congress.

20– See SHANNON, Kelly: “Re-politizing the Metropolis: the Strategic Project Approach,” op. cit.

21– From the design brief. See *Quaderns* no. 220 (Operative Topographies) 1998, p. 48.

22– See BEIGEL, Florian: “Urban Landscapes,” *Quaderns* no. 216, 1997, p 42.

23– An interesting outlook on the work by Parent and Virilio can be found in *The Displaced Grid*, room material and catalog from the exhibition organized by the FRAC in Orléans and the RIBA Architecture Center in London, 1998.

See also PARENT, Claude: *Error dans l'illusion*, ed. Les architectures hérétiques, Paris 2000. It is also worth highlighting the mention by André BLOC in: GUIHEUX, Alain: *Collection d'Architecture du Centre Pompidou*, ed. Centre Georges Pompidou, Paris 1998, p. 52.

24– See BRU, Eduard: “Territorios no probados,” *Quaderns* no. 183, 1989, p. 83.

25– By the same author: “Untested territories,” *Quaderns* no. 193 (Linked Images), 1993, p. 82 and “Vall d'Hebron: A new landscape,” *Quaderns* no. 193 (Linked Images) 1993, p. 48.

26– See PRICE Martin: “Groundscrappers” en *Quaderns* no. 220 (Operative Topographies) 1998, p. 68.

27– For information on the project see: GAUSA, Manuel: *Housing: New Alternatives, New Systems*, op. cit. pp. 94-95; see also *Quaderns* no. 211, 1996, p.61 and *The Berlage Cahiers* no. 3 (1995).

28– For information on the project, see: *Quaderns* no. 214, 1996, pp. 124-127.

29– See ROCHE, François: “Situation” in *Quaderns* no. 217 (Land-Arch), 1997, pp. 97-99.

30– RAHM, Philippe: “Folds,” *Quaderns* no. 220, 1998, p. 61.

31– See GAUSA, Manuel: *Otras naturalezas urbanas: arquitectura es ahora geografía*, ed. EACC, Castelló 2001.

32– See *Quaderns* no. 220 (Operative Topographies) 1998, pp. 62-65.

33– See SOSA, José Antonio and BORDES, Félix: “El paisaje como premisa de proyecto,” *BASA* no. 16, 1994, p.98.

34– See RUDOLFSKY, B.: *Architecture Without Architects*, University of New Mexico Press, 1987.

35– See *Quaderns* no. 220, 1998, pp. 82-83; see also SALAZAR, Jaime and GAUSA, Manuel: *Singular Housing: el dominio privado*, ed. Actar, Barcelona 1999, pp. 248-249.

See also: PERIPHERIQUES: *36 modèles pour une maison*, ed. Arc en Rêve, Ministère de la Culture et la Communication, AFAA, Bordeaux 1998, pp.112-116.

36– For information on the project see: GAUSA, Manuel: *Housing: New Alternatives, New Systems*, op. cit. and *Quaderns* no. 211, 1996, p. 61 and no. 220, 1998, pp. 74-77.

37– From the design brief. See previous note.

38– For information on the project see: GAUSA, Manuel: *Housing: New Alternatives, New Systems*, op. cit. pp. 140-143; and *Quaderns* no. 211, 1996, p. 7.

39– From the design brief. See previous note.

40– For information on the project, see: *Quaderns* no. 220, 1998, pp. 74-77.

41– See MORALES, José: “Lo figural, la mirada” en GAUSA, Manuel–DEVESA, Ricardo_ *Otra Mirada*, ed. GG, Barcelona p. 59.

See also “Terrain Vague,” *Quaderns* no. 214, 1996, p. 171.

42– See: GAUSA, Manuel: *Housing: New Alternatives, New Systems*, op. cit. pp. 92 and 146; see also *Quaderns* no. 219 (Reactive Architecture) 1996, pp. 86-89.

43– Many of these reflections appear summarized in GAUSA, GUALLART, MULLER, MORALES, PORRAS, SORIANO: *The Metapolis Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2000. See: Stampings, Stains, Folds, Papyroflexy and Origami.

44– See SIMEOFORIDIS, Iorgos: “Furrows,” *Quaderns* n. 220, 1998, p. 73.

- 45– See BEIGEL, Florian: "Urban Landscapes," *Quaderns* no. 216, 199, p. 40.
- 46– These terms can be found in different interviews with the author, which provide an essential summary of the aforementioned concepts.
See SIMEOFORIDIS, Iorgos: "Furrows," op. cit., p. 73.
- 47– For information on the project, see: *Quaderns* no. 217 (Land-Arch) 1997, pp. 30-41.
- 48– See MORALES, José: "Terrain Vague," op. cit. pg.171.
- 49– See SOSA, José Antonio and BORDES, Félix: "El paisaje como premisa de proyecto" in *BASA* no. 16, 1994, p.98. See also SOSA, José Antonio: "Environmental Constructors: From Mat-Building to Programmatic Lava," *Quaderns* no. 220 (Operative Topographies) 1998, p.90.
- 50– See GAUSA, Manuel: "Lands in lands," *Quaderns* no. 220 (Operative Topographies) 1998, pp. 44-49.
- 51– Using the same expression that was employed by the architects njiric & njiric.
See the design brief for Glasgow in the European IV catalog (*Construire la ville sur la ville*) ed. EUROPLAN, Paris 1996. See BETSKY Aaron: *Landscrapers: Building with the Land*, ed. Thames & Hudson, London, 2002.
- 52– See *Merriam-Webster's Collegiate Dictionary*, Eleventh Edition.
- 53– See LYNN, Greg: "Shoei Yoh: From nature to a new vitalism," *Quaderns* no. 220, 1998, pp. 122-125.
- 54– For information on the project, see: *Quaderns* no. 220 (Operative Topographies), 1998, p. 125.
- 55– For information on the project, see: *Quaderns* no. 220, 1998, pp. 126-127.
- 56– The fabrication techniques, indigenous and industrial at the same time (local craftsmanship and advanced technology: bamboo and concrete) create – to paraphrase Lynn – combined situations of micro-heterogeneity and differentiation, of macro-continuity and inflection, which promote this possible condition of enclaved "fluctuation" and "relief", halfway between the artificial and the natural.
See LYNN, Greg: "From nature to a new vitalism," op. cit.
- 57– See ROCHE, François: "Situation," *Quaderns* no. 217 (Land-Arch), 1997, pp. 97-99.
- 58– An interesting perspective on the work by André Bruyère can be seen in: SAUER, Bruno: "Interview with André Bruyère (and Jean Dauriac)" in *Quaderns* no. 223 (Loops), 1999, pp. 100-110. See also the mention by GUIHEUX, Alain: *Collection d'Architecture du Centre Pompidou*, ed. Centre Georges Pompidou, Paris 1998, pp. 60-65.
- 59– See GUALLART, Vicente: "The city of a 1000 geographies," *Quaderns* n. 217 (Land-Arch), 1997, pp. 170-175.
- 60– For information on the project, see: *Quaderns* no. 211, 1996, pp. 188-200.
- 61– For information on the project, see: *Quaderns* no. 220 (Operative Topographies), 1998, pp. 118-121; see also SALAZAR, Jaime and GAUSA, Manuel: *Singular Housing: el dominio privado* ed. ACTAR, Barcelona 1999, p. 235.
- 62– Most of his "domes" originate in this interest for natural patterns. See KRAUSSE Joachi and LICHTENSTEIN Claude: *Your Private Sky: R. Buckminster Fuller*, ed. Lars Muller, Baden 1999.
- 63– See B. MANDELBROT: *Fractals: Form, Chance and Dimension*, ed. W.H. Freeman & Company, London 1977.
- 64– See the term coined by Eduardo Arroyo in *VVAA: The Metapolis Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2003.
- 65– See the special issue of the magazine *Arquitectos*; see also GAUSA, Manuel: *Otras Naturalezas Urbanas (Arquitectura es ahora geografía)*, ed. EACC, Castelló 2001.
- 66– From the design brief. See previous note.
- 67– Ibid.

- 68– For information on the project(s), see: *Quaderns* no. 220, 1998, pp. 55-59.
The variations are published in different issues of the magazine *Arquitectos*.
- 69– See GAUSA M.- GUALLART V.- MULLER W.: *MET 01-Barcelona Metapolis*, ed. Actar, Barcelona 1998. See also by the same authors: *HiperCatalunya: Territorios de investigación*, ed. Generalitat de Catalunya and Actar, Barcelona 2003.
- 70– See ABALOS, Iñaki-HERREROS, Juan: "Ecomonumentality" in *Exit* no. 4, and *Quaderns* no. 224, 1999.
- 71– See BEIGEL, Florian: "Urban Landscapes," *Quaderns* no. 216, 1997, p. 40.
- 72– Compiled in BEIGEL, Florian: "Urban Landscapes," op. cit.
- 73– For information on the project see GAUSA, Manuel: *Housing: New Alternatives, New Systems*, ed. ACTAR, Barcelona 1998. See also *EUROPAN IV: Construire la ville sur la ville*, ed. EUROPLAN, Paris 1997.
- 74– For information on the project, see: *Quaderns* no. 219, 1996, pp. 62-65 (initial design).
- 75– For information on the project, see: *Quaderns* no. 219 (Reactive Architecture) 1996, pp. 58-61.
- 76– From the design brief. See preceding footnote.
- 77– See MORALES, José: "Adiós a la metáfora," in V.V.A.A. *Otra Mirada* ed. Gustavo Gili, Barcelona 2000.
- 78– For information on the project, see: *Quaderns* no. 219 (Reactive Architecture) 1996, pp. 14-27. An exhaustive analysis appears in:
MVRDV (edited by SALAZAR, Jaime): *Villa VPRO*, ed. ACTAR, Barcelona 1999.
- 79– See Van der TOORN, Roemer: "Fresh Conservatism," *Quaderns* no. 219 (Reactive Architecture) 1998, p. 95.
- 80– For information on the project, see: *Quaderns* no. 219 (Reactive Architecture) 1996, pp. 44-49.
- 81– For information on the project, see: *El Croquis* no. 53, 1992.
- 82– From the design brief. See preceding footnote.
- 83– For information on the project, see: *Arch+* no. 117, 1993. An interesting presentation can be found in: *Nuevos paisajes, nuevos territorios*, ed. MACBA, Barcelona 1997 and in *Fisuras* 3 1/3, 1992.
- 84– See SALAZAR, Jaime: "Interiores desplegados" in: BRU, Eduard: *Nuevos paisajes, nuevos territorios*, ed. MACBA, Barcelona 1997, p. 143.
- 85– For information on the project, see: *Quaderns* no. 220 (Operative Topographies), 1998, pp. 84-89; see also SALAZAR, Jaime and GAUSA, Manuel: *Singular Housing: el dominio privado*, ed. ACTAR, Barcelona 1999, pp. 238-241.
- 86– For information on the project, see: *Quaderns* no. 222 (Spirals), 1998, pp. 82-83.
- 87– From the design brief: see previous footnote.
- 88– For information on the project, see: *Quaderns* no. 222 (Spirals), 1998, pp. 84-89; see also SALAZAR, Jaime and GAUSA, Manuel: *Singular Housing: el dominio privado*, ed. ACTAR, Barcelona 1999, pp. 224-229.
- 89– For information on this "dual" project, see: *Quaderns* no. 218 (Reactive Architecture) 1996, pp. 4-19.
- 90– See the text by Kaas OOSTERHUIS in *Quaderns* no. 218 (Mobility) 1996, p. 6.
- 91– See the text by Kaas OOSTERHUIS in *Quaderns* no. 218 (Mobility) 1996, p. 7.
- 92– See ZAERA, Alejandro: "Operative Topographies," *Quaderns* no. 220, 1998, pp. 34-35.

Part 5

FIELDS AND/OF OPERATIONS

Place: action, reaction, interaction
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11. REACTIVATIONS (ACTIONS-MACHINATIONS)

Field Logics: Another Logos, Another Locus

12. INTRIGUES (AND PARADOXES)

Crossing (and Looping) Trajectories: Other Formulations,
Other Statements



Elliott ERWITT. Simulated nuclear attack in a miniature battlefield, USSR, 1966. (In *Magnum Landscape*, ed. Phaidon Press, London 1996.)

11 REACTIVATIONS (ACTIONS-MACHINATIONS)

Field Logics: Another Logos, Another Locus

I. Strategies in the Era of “(Dif)fusion”

Shoots and grafts, meshes and weaving, knits and knots, ground, and undergrounds, topographies and reliefs... Many of these concepts tend to suggest a possible “(dif)fusion” and “(trans)fusion” of contemporary design, in (and with) the “milieu”, (context and environment), resulting from an increasing mistrust of the figural – objectual – presence of architecture understood (only) as a “stranded” element – figure and object: a pure, static volume, “standing out from”, “silhouetted against” and “external to” – the background of action.

This progressive interweaving – this interactive overlapping – between figure and ground, which we have touched on through the previous pages, this fusion or “coupling” – which is increasingly evident in the transition from construction to landscape, from Euclidean to topological (and/or topographical) – could be interpreted from a critical, resistant or simply skeptical perspective as a quick-change and escapist ruse, as a desertion of the traditional idea of form (a “loss” of its old “substantive” values or a “resignation” of its former – solemn – “presence-based” and “positional” mission). However, it represents an increase in a new desire for recognition and (re) definition in and of our surroundings, associated with the possibility of moving beyond the old boundaries – limits – between object, frame, ground, milieu, environment and/or system.

This rupture evidences the crisis of in very idea of a boundary as a hermetic – “categorical” or “defining” – limit, and its fluctuation in a broader field of operations and interactions, which is open to a new, more extroverted – in that it is “unlimited”, “unenclosed”, “unbounded”, not subjected or pre-established – formulation of architectural form.

A kind of form that demonstrates an “in-between” nature, in transit – trans, meta, in and between or beyond – that is called on both to direct and obstruct its own spatial and relational alignment.¹

11.1. Étienne-Jules MAREY: *Le vol des oiseaux*, in Greg LYNN: *Animate Form*, 1999

II. Criss-Crossing Again: Place at the Crossroads

The understanding of the idea of “place” as an active, fluctuating, unstable (in sum, dynamic) milieu (or environment) contemplated beyond its old semantic connotations – what has habitually been called “context” – invites the exploration of this new fluctuating nature of the old “locus” and its new evolving manifestations as a virtual “field of forces”, as a scenario for intersection and interaction.

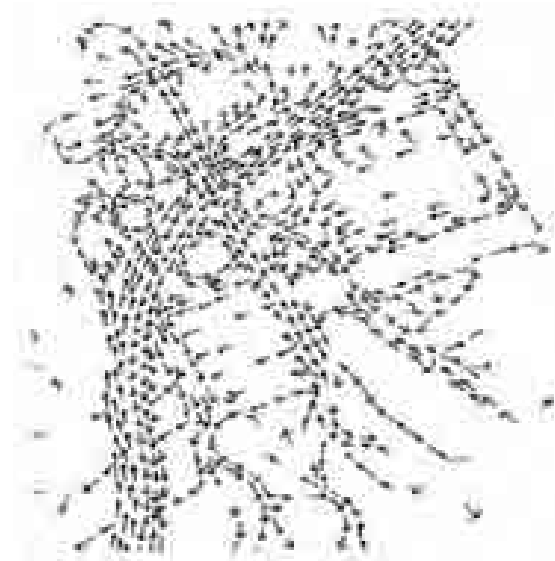
Place appears as an increasingly less stable and ritual environment, less genuine and literal, which can only be understood based on the assumption of a vibratory framework of “layers” of information in movement (a “field of forces and information”) which requires new exploration and new tools for action.²

In this sense, we could ask ourselves what we are referring to when we talk about “place”: the old essential and/or ritual framework for a scenario that is substantive and eternal in its transcendent manifestations, or a new type of scenario for the intersection of and between forces and movements, in a permanent state of latent change, – why not? – with the possible indications of a certain “immanent tonality”.

The positive comprehension of the notion of “field” (“field of forces”, “battlefield” or “field of maneuvers”, i.e., a “scenario for intersection”, as the vibratory framework for “informational” layers in “inter-action”) not only in terms of the global scale but the local scale as well, lets us effectively approach the progressively ambivalent condition of the scenario in question (space, location and framework for the action at the same time) and its capacity for innovative transformation, without giving up on expressing certain unique characteristics, beyond the old essentialist definitions of hypothetical, more or less transcendent, “signs of identity”.³

The spirit of a place (genius loci) is no longer founded on essential, unchanging and identifiable principles. It is synthesized as an active and activatable potential, within a whole broad field of “emergent”, “emerging” or “emergible” potentials – whether evident or hidden, singular or diversified at the same time – whose directed recording and construction are those of a possible design expression of “space-time” relationships between conditions and volitions, between tensions and demands in mutual vibration and interaction.⁴

Place appears as a scenario in a permanent state of “latent change”: a space that is “active and expectant at the same time”, which ties in with a new multiple and multiplied condition, “on the limit” between different phenomena, times and, above all, scales.



11.2. O.M.A.-Rem Koolhaas: Urban restructuring project (Yokohama, 1992).
Vector and flow diagram: “place” – and space in general – as a “field” of forces.

III. Non-Places, Node-Places. Con-texts and Un-texts

Beyond the distinction between “places” and “non-places” proposed by the anthropologist Marc Augé⁵ – between “positive” scenarios, with a strong specific and identity-related value, and “negative” scenarios, which are anonymous, generic, interchangeable, delocalized, etc., with a large component of “indifferent materiality” – the concept of “field” opens up the “field of action” to a broad mosaic of “multi-situations” to be explored, re/assessed, or reinvented; far from the old “morpho-typological” “signs” or the identifying and pre-established “characteristic laws” of ritual place.

With the term “non-places”, Augé proposed a possible definition for a new type of “profane places” associated with this, increasingly slippery, relationship between “city-event” and “space-use” of contemporary space. The “non-places” identified in this way constitute the most evident critical paradigms for scenarios that are suddenly dis-located; like perhaps no other phenomenon, they are intended to demonstrate this ongoing transfer between the “developmental existentialism” of the industrial era (related to the culture of materiality and necessity, of mass consumption and mass production) and a new “consumerist existentialism” (tied to a culture of diversified experience and accessible mobility, of disperse disorientation and expanded time) in new meta-urban territories.

Distant and near, familiar and foreign, Augé’s non-places propose a reading and a distinction which is often too “moralizing” or “cultural-aesthetic” to take on all the complexity of the new emergent “node-places”: spaces of intersection – fields – which deal with this progressive, unstable, fluctuating dimension, “scored” by lines of force, within the contemporary scenario understood as a “multi-space” of encounter and transfer, connection and relationships – the epitome, in any case (beyond eventual specific values), of a new “woven” and many-colored mosaic of events which are sensitive to its “multi-layered” nature.

But also sensitive to their own capacity for affirmation – positive and revealing reinvention – beyond the old redemptive or re-ritualizing inertias of the old urban disciplines.

Because this ambivalent “poly –” and “multi”– condition also carries with it a mutation of the traditional immanent attributes awarded to the “place-context”, not with regard to its desirable specificity or singularity, but concerning its old and hypothetical – essential and essentialist – “unambiguous identity” as the limits are increasingly blurred not only between the natural and the artificial, but between “genuine” and “foreign”, between “pure” and “crossbred”.

Today images, messages, experiences, “signs of identity” move from one place on the planet to another in an accelerated transfer between external information (transferred) and endemic (specific) information, between “endogenous” and “exogenous” information, which have the potential to influence an environment which, as we have pointed out repeatedly, has seen the dissolution of its dichotomous, linear and pure secular divisions: natural/artificial, quotidian/extraordinary, singular/plural, real/virtual.

A new hybrid and multi-faceted condition of contemporary space that – as we pointed out in Chapter 4 – suggests a possible disruption in the traditional relationships between man and milieu, beyond the old stability of what is apparently permanent; there is a general sensation of paradox (the simultaneity of contradictory realities) which – though they may seem to refer to a general impression of substantive, typological and terminological collapse – could also promote new relationship structures of decoding and recoding at the same time.

Rather than “contexts”, we should talk about “syntexts” (for synthetic and for “un-texts” – *sin-textos* in Spanish – that is to say, without any referential textualities) where possible combinations could occur between generic (systematic, abstract) logics and specific (contextual, contingent) reactions into new dispositifs “on the edge”.⁶



Place as a specific space, understood not just as a “framework” or “atmosphere” – as a “scenario” – but as a multiplied milieu – as a field of forces, is no longer a “center”, but a “limit”. A “margin for maneuvers”.

The old codified and unambiguous vision of “coherent” homogeneity and “competent” standardization is faced with a new multi-valent perception, more “consequent”, in keeping with the “transversal” value of contemporary space, interpreted as a constant “transfer” of information and energy: an “interface”, i.e., a “reactive” environment, non-transferrable and multi-transferent at the same time.

Faced with this new holistic (multiple and “multi-layered”) dimension of contemporary space, the question would not be to reject the old laws of place, imposing “deaf”, “foreign” or “autistic” actions (intended to bring about isolated positions, foreign impositions or marginal compositions). Nor would it be a question of sanctifying them (or making them over) based on the recreation of glosses and annotations understood as mere reproductions, i.e., more or less nostalgic re-propositions.

We would not be interested in omitting place or sanctifying it; neither rejecting it nor re-representing it.

The question would be only – or especially – to pay attention to its conditions and possible interactions – both material and immaterial – but also its different sounds and “music”, not always in tune or in harmony.

Establishing an ambiguous condition of resonance, interaction and synergy (strategic and tactical, resonant and transferent, local and global) among them: through the definition of “in tune” actions, in a particular “complicity”, though not necessarily interdependent or symbiotic.

The aim is not to omit place, to reject it or redeem it; nor are we interested in recreating it or re-representing it. Rather, the idea is to pay attention to its atonal music and its reverberating sounds.

11.3. Merce Cunningham; Summerspace, 1958. Spatial structure and trajectories.

11.4. OMA-Rem Koolhaas; Zeebrugge Sea Terminal (1990).

11.5. S&Aa (Soriano-Palacios); Residential towers, Barakaldo, European 5 (Bilbao, 1998).

11.6. Duwensee-Kreplin. “Urban Megastructures”. European 2 (Rostok, 1990).



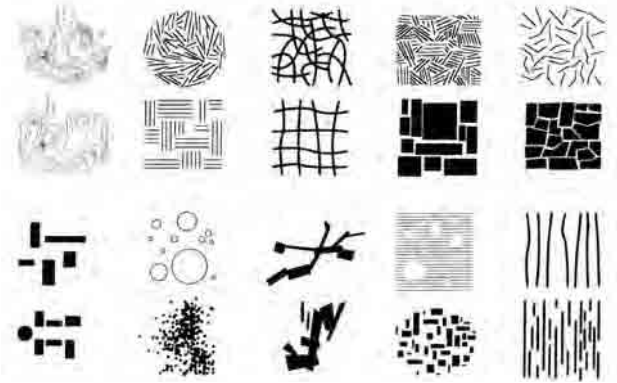
Reinforming it with a different kind of strategies for response and spatial redefinition.

Opening up the territory to different flows that will leave their mark, while proposing new and unheard-of formulations at the same time.⁷

The true cultural dimension of contemporary architecture comes from this ability to effectively take on the apparent substantive vagueness of an environment "on the limit" between information, conditions and mutations, between times and scales (defined, beyond the old image of the place-context, as an essential, semantic, physical, atavistic or literal scenario).

Approaching it using a new operative intelligence which sees the old notion of "place" not as a protective surrounding or a secure guide, but rather as an – incomplete – situation to be re-stimulated.⁸

It is with an eye to these considerations that we have focused our exploration of some of the dynamics contemplated in this book, not only because of the potential for spatial response associated with them, but because of their implicit desire to propose new dispositional strategies that are generated in the crossroads.⁹



The project as "field" or as "environment".

11.7. S&Aa (Soriano-Palacios): Residential towers, Barakaldo, European 5 (Bilbao, 1998).

11.8. "Diagrams of field conditions" (in Stan Allen: *Points + Lines Diagrams and Projects for the City*, ed. Princeton Architectural Press, New York 1999).

IV. “x” (not “+”, or “-” and not just “=“)

Architectural Operations, Architecture and Landscape

Many of the dispositifs we have analyzed throughout these pages are set up as scenarios on the edge: landscapes of intersection and encounter.¹⁰

Landscapes pulled by different forces: dissolving or holding fast, flowing or remaining anchored, disappearing or standing out.

Unfolding, refolding, folding.

These terms are not dissimilar to the ones which characterize the “reactive” properties of most of the contemporary dispositifs we are concerned with here (“extraction” as a “reaction” to place, “transformation” as an “action” – or “impact” – on it).

The interest of those proposals lies in “offering” relationships; promoting new links and connections; activating program, uses and scenarios; in short, multiplying identities.

Activating and positively reassessing the values to be highlighted (cultural values, but also sensory, scalar, environmental, human, and social values, among others) and redirecting other vectors which can be emphasized, maximized, or just reevaluated.

Most often, the idea is simply to expand on the potentials of a place, rather than adding or subtracting information: “x” (not “+” or “-” and not just “=“).¹¹

To be a place and bring together – or connect – many other places at the same time.

To be a place and transfer to other possible, real and virtual, places.

To be both local and global at once. Local and transversal.

To be a place and a “hyper-place”.

Introducing new information that can take advantage of the existing assets and potentials and re-stimulate them – i.e., reactivate them – both formally and spatially.

As a result, the relationship with place is, more and more simultaneously, strategic and tactical: reacting to its potentials and making them operative; promoting other – new – conditions and – possible – dimensions; resonating and transferring; multiplying potentials, both obvious and hidden.

Signifying the heterotopic nature of the project, understood as “a place in/from the place”.

Within this framework of multi-scalar exchanges, architectures work as “landscapes” (of data), and “landscapes” work as architectures (of intersection).

This compromise and coupling (recurring in contemporary culture) between the old voices of “architecture”, “place” and “landscape” takes on special connotations.

Landscape as a “scenario of movements”, but also as a “territory of notations” of reality itself.¹²

Conceiving architecture as “landscapes of intersection”, as we pointed out earlier, implies breaking down the boundaries between old substantive categories and scales – territory and city, scenario and stage, trajectory and system, figure and ground, etc. – leading to a new, more open “topos” of movements and events.¹³

In this sense, the idea of a design action associated with an interpretation of *place* as a possible landscape of encounter, operative and operativized (an open field of potentials within another open field of forces) does not involve integration, imitation, imposition or appropriation: It wants to “react” unbiasedly with the (physical and virtual) environment, introducing itself flexibly in the milieu in order to generate “topo-logical” (though not necessarily “topo-morphic”) dynamic responses: unique in their specific manifestations and generic in their possible abstract definitions. Negotiated and un-subjected at the same time.

Following pages: examples of encounters between “architecture” “landscape” and “field” in a place.

11.9. Roche & DSV & SIE: School of Architecture (Venice, 1997) Urban morphing.

11.10. Actar Arquitectura: Monte Hacho Complex (Ceuta, 1998). Territorial morphing.

Previous pages: some examples of resonance and interaction with the milieu.

11.11. O.M.A.-Rem Koolhaas: City Hall, The Hague (1986-1987).

11.12. Steven Holl: “Edges of a City.” Proposal for Manhattan (1990).

11.13. F.O.A. (Zaera-Moussavi): Entrance to the Myeongdong cathedral (Seoul, 1995).

11.14. Aranguren-Gallegos. Cultural Center and Auditorium (Benidorm, 1995).

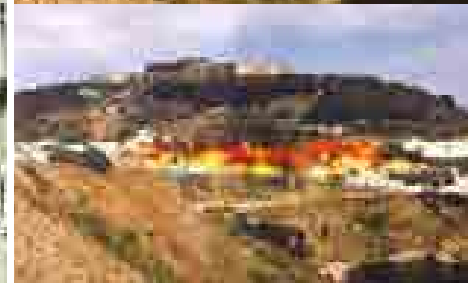
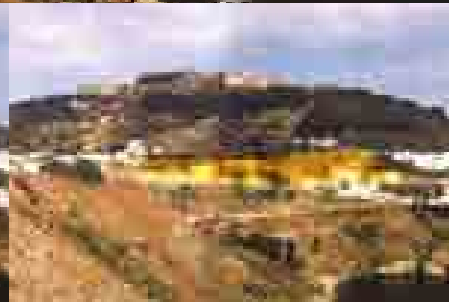
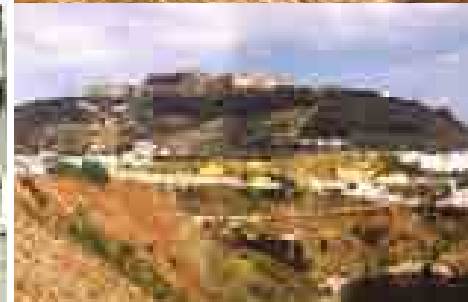
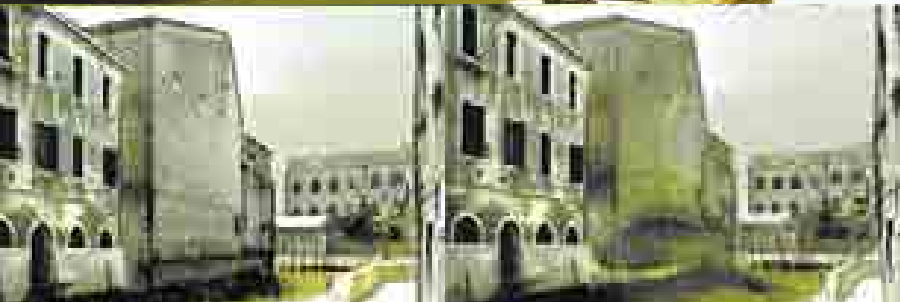
11.15. Eduardo Arroyo-NO.Mad.Arquitectura Pamplona Auditorium, 1998.

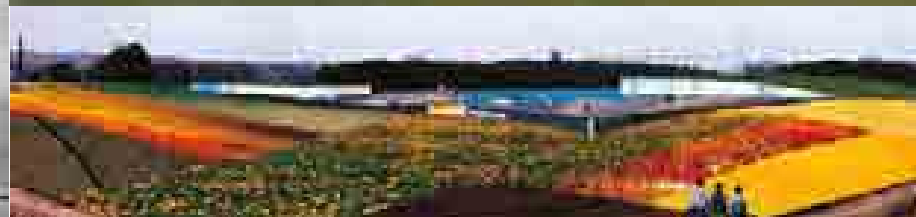
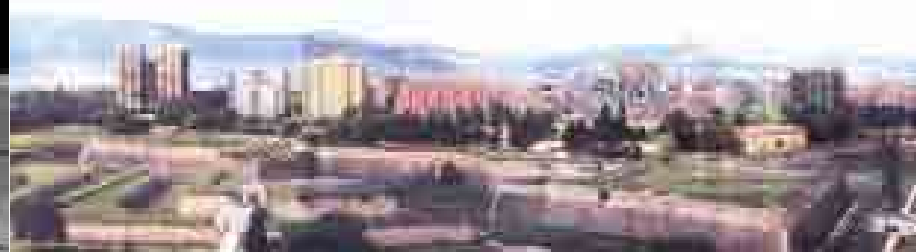
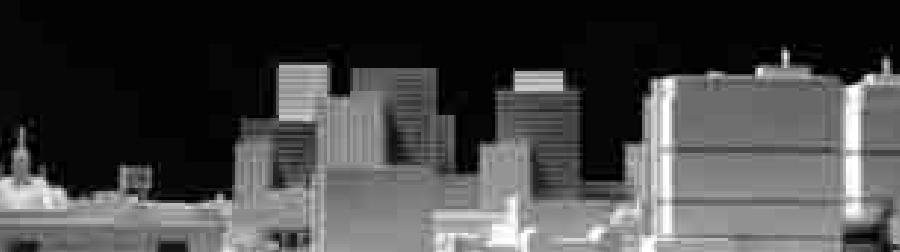
11.16. Diacomidis-Dallas-Haritos-Nikodimos-Papandreou: Meyrin, 1994.

11.17. S&Aa (Soriano-Palacios). Benidorm Cultural Center and Auditorium (Alicante, 1993).

11.18. Roche & DSV & SIE: Venice School of Architecture (Venice, 1997).

11.19. Actar Arquitectura: Vallès Technology Park (Barcelona 1997-1998).





V. “Field” Logi(sti)cs: (Re)active Environments

This topo-fluctuating – rather than iconic-positioned – condition refers back to a possible level of “resonance”, which can be established between the perception of a new “guest” landscape and a “host” landscape, manifested in its surroundings, and the clear links with the notions of “synergy” and “interaction”.

Whereas the term “resonance” refers to a modified variation of the “sounds” from the environment (created through the reflection or repercussion between different bodies or spaces in vibration), the term “interaction” translates into a “trade”, a mutual “exchange” between different stimuli, and the term “synergy” is the active participation among various synchronous efforts:

- Resonance, as a conjugation of tuned and accorded energies.
- Interaction, as an exchange of associated energies.
- Synergy as a combination of multiple or multiplying energies.

Pursuing further this idea of a “field” as an interactive “environment”, as a “scenario” or a “landscape” of encounter, but also as a possible “topo-dynamic” “distribution” of forces and movements that are “in process” reveals the new “hyper-scored” and cross-cutting condition of place as informational space.

The notions of “field” or “environment” understood as dynamic frameworks or atmospheres ties in with this ability to recognize and articulate “localized stimuli” and, at the same time, to express logics and actions which are “projected” – more or less recursively – and deployed, at the same time, in trajectories that are – actually or virtually – reactive, in that they are condensers of movements, action, and information which is processed synthetically. A spatial device, a dispositive, understood as an “open field” of movement within another “open field of forces”, as we have put forward in this book, is not integrated; it does not imitate; it does not impose itself; it does not appropriate. It “reacts” with the (physical and virtual, material and immaterial) environment, inserting itself flexibly into the milieu in order to generate cross-cutting responses that are local and global, plural and specific (architecture and landscape, architecture and infrastructure,

architecture and flow). Reactivating it and reinforming it.¹⁴

Both the idea of “field” and the idea of place, environment or a “landscape” of intersection, exist on the basis of linking together ambiguous relationships between reaction and interaction, between independence and interconnection, between “medium and mediator” (or, ultimately, between class and case).¹⁵

Then, the project appears as a virtual “field of forces”, implanted in another “field of forces (the place)” – which is, in turn, inscribed in a larger milieu (the city, which is also a dynamic system). With, in and between them, there are exchanges of energy, material and/or information. Its condition is that of a relational and operative system inscribed in a global synesthetic space.¹⁶

Based on this ambivalent condition of a (multi)field milieu and a (multi)layered action, with the ability to process (more or less significant) data and re-elaborate it spatially – to inscribe itself in a field of forces and act as a conductor – we can then interpret the new nature of contemporary design and its response to the very idea of an “inter-active” insertion in a place.

The idea of a “(re)active” environment, which refers to and calls on interventions and operations conceived in (and as) environments that are (inter)active and reactive at the same time.

Environments intended to process multiple demands – cultural and functional, programmatic and perceptive, episodic and multi-scalar – reformulating them, and compressing them, into new active dispositifs called upon to infiltrate a host space – which is “contingent” by definition (and, therefore, “incomplete”) – surpassing it and re-stimulating it at the same time. These are the terms we use to refer to this recurring, influential and incidental, aim for a new architectural action: an action that is no longer “resistant” (skeptical, defensive or questioning), but rather “remittant”: it recodes because it decodes (or uncodes).

That is to say, it reformulates, on the one hand, inertias and pre-established conditions, old accepted codes (uncoding); but it also translates phenomena – new conditions and coding – which are emergent and global (decoding). It re-informs, as such.

Again, an action that is relational and operative at the same time.

VI. Reaction and Resistance

In a new informational – real and digital – environment, this interactive nature of a possible architecture that “mediates” between times, places and scales refers back to its new and implicit condition as an interface; that of an interactive dispositif of translation and transfer – a transferent, whose nature is that of an artificial supplement (foreign, an outside, an intruder, even) – which has the ability to register, process, manipulate and crossbreed different “messages”, “data”, “codes” and “meanings” – conditions and locations, levels and layers of reality – and to synthesize them in trajectories (or constructions) of synthesis, called upon to work, precisely, with ubiquity and multiplicity, with configuration and information, at the same time. It is based on these premises that we can compare architecture with an abstract – diagrammatic – mechanism and a “processing mechanism” – (re)productive, manipulative and interactive – signifying the double condition of being both “incisive” and “incidental”, as we mentioned in the previous chapter.

Or with a “prosthesis”, if we associate the possible “mechanical and machinating” condition of an architectural dispositif with that of a “functional and operative supplement”, at the same time.

“What is it to talk of prosthesis here in architectural discourse?

Or, rather, what is it to talk of it again, for was not modern architecture simply the thought of architecture as prosthesis?”

With this double question, Mark Wigley begins his essay,

“Prosthetic Theory: The Disciplining of Architecture”.¹⁷

Although Wigley’s thesis and his mainly metaphorical focus (in his references to the idea of prosthesis) are meant, above all, to point out the difficulty (or the impossibility) today of constructing a true unitary theory around the idea of contemporary architecture, some of the tangential ideas he points to allow for proposing lines of discussion which are especially apropos in our case.

Reactive capacity, strategic disposition, synthetic abstraction and “in-between” (in) stability vs. imposed and tectonic objectuality.

11.20. in-between being matters: simulated (Star-Trek, Paramount Pictures) and virtual (Toyo Ito, Sendai Media-Centre, 2000)





11.21. Precedent page: Actar Arquitectura: Communications tower, Turó de la Rovira (Barcelona, 2000).
Above: Structural tornado for the New Milan Trade Fair. Massimiliano & Doriana Fuksas.

VII. Orthopedics and Prostheses, Inductors and Stimulators

In terms of a possible “implant” or “implantation” in the milieu (a new layer of information), we are interested in exploring this virtual prosthetic condition of contemporary architecture. The concept of a “prosthesis” does not only allude, in this sense, to the capacity for infiltration, intrusion, coupling, extension or lengthening of the architectural object in an apparently incomplete medium. Rather, it also refers to its “redefining” or “reinforcing” condition: that of a (figurative or strategic) “recoding” mechanism intended to address the hypothetical lack – or desire – in the host body.

Classic “orthopedics” (like architecture itself in the traditional city, in fact) tend to reproduce – to evoke, recreate, or re-represent – the absent element (or better, the form of it), regenerating the damaged tissue or extending its former characteristics.

In the past, orthopedic artefacts hid their foreign infrastructure under coverings which looked natural. There was a certain amount of regenerative or redemptive, in addition to “reconstructive”, formalism in all of it.

Hiding distortions. Composing “appearances”.

Recovering “what used to be”. Reconstructing the former single body.

These operations were fundamentally (re)compositional, in search of an alleged – lost and yearned for – aesthetic harmony of completion, of what is finished, cohesive.

Allegorical actions, precisely because they are evocative.

The epic of modernity aimed to substitute the old ceremonial, ritual, liturgical or allegorical “reproductions” with new functional “productions”: pragmatic artefacts strictly designed not to evoke, but to “produce”.

Vocationally prototypical, abstract simple responses and conceived as a “support for specific functions” (hold, grip, catch, move, just like sleep, work, rest, transport, etc.).

Genuine technical, mass-produced, typological, universal, autonomous pieces – universal prototypes – which were as strict and exact as they were “foreign” to the body – place or contact – which receives them.

“Mechanical designs” or “mechanisms” that were precise and dry, economic, rigorous and proudly abstract.

Pure form, for purist and purified.

Functional machines, tending to be both “essential” (in their abstraction) and “indifferent” in their location).¹⁸



11.22. Man with “seven” feet. Fragment. Marc WIGLEY: “Prosthetic Theory,” *Assemblage* no. 15, 1993).

VIII. Reaction and Reactivity

New techniques and new factors let us develop, today, new “prosthetic” machines, new more artificial artefacts, if you will, but which are also “unique” and specific. Non-transferrable. In an individual “resonance” with the milieu and the local context. The media – the broadcast of the Paralympic Games is a paradigmatic example, but so is the whole range of digital/virtual equipment – has familiarized us with the application of new “smart” implants which do not resemble the limbs where they are implanted (or for which they are a substitute), and yet they interact qualitatively with the host body, not only to recover or improve its former features, but to increase them, reaching out toward new conditions, or even dimensions.

Technological elements (i.e., preferably “infrastructural” rather than aesthetic) which, at the same time (and despite their strange artificial appearance) enter into “unique” and “personal” accord with the host body in order to better optimize their potential; transferring it, even, toward new real and “virtual” situations.

The idea, then, is not just being able to run, but to run faster; not just to see, but to see further; not just to “cover” the given needs, but to multiply the degree of response, “above and beyond” those needs.

Based on these premises, we can imagine an architecture that would not confine itself to simply “extending”, or supporting, the body; rather, it would constitute a supplement that is receptive and active at the same time; a reagent that is “singular” (in that it is “artificial”, but also “individual”); “foreign”, yet attuned to particular characteristics; capable of regulating itself while multiplying – encouraging and enlarging – the initial conditions of a pre-existing reality, in order to “transcend” them beyond their own limits.

Like a processing device in and of the milieu.

Or, better yet, an interface – rather than a machine – between

“us” and the “world”. With the potential to tune in and to transmit, to process and reinterpret or, if you will, to reformat. Ultimately, to (re)stimulate.

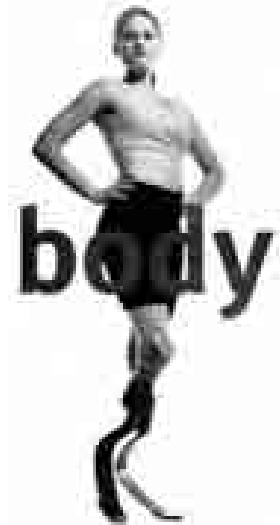
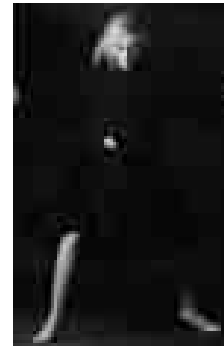
From a logic based, as we have said, on the topological intersection between energies, tensions, currents and forces, rather than representations.

This “unnatural” contract, which has the potential to bring together codes (and levels) of different (in)formation in a single body or environment, refers back to the formal disconnection between its parts – and the strange structural “coupling” – in contemporary design: twinning, cuttings, grafts point to recent “anti-compositional” mechanisms, which translate this desire to propose more direct and “un-subjected” actions (because they are uninhibited, unbiased) in harmony with the interpretation of – contemporary – space that can only be approached effectively from the standpoint of synchronization and the active organization of layers and networks that are overlapping and differentiated at the same time.



11.23. Prostheses for running races: Barcelona Paralympic Games, 1992 (in *Quaderns* no. 199, 1994).

El increíble golfista sin manos



The media has familiarized us with the application – often contingent, because it is tactical – of new “smart devices” which have nothing to do with the limbs in which they are implanted (or which they substitute) and which, nonetheless, interact qualitatively with the host body, improving on their former qualities.

11.24. “Vic Reis, the handless golfer” or “the champion grandfather” (archive).

11.25. Sensor-fitted foot, designed at MIT, Boston Massachusetts (archive).

11.26. Stelarc & Merlin: *Amplified Body Event*, 1997.

11.27. “Aimé Mullins, the first model without legs” (in *I.D.*, May 1999).

X. Transfers: Leaps and (Re)stimulations Architecture as a Virtual Interface

The form we might use to give meaning to our *landscapes* (contexts or scenarii) does not involve producing only constructions/buildings as evocative forms or as appropriated and/or inert objects; rather it is founded on imagining environments-dispositifs that are more receptive, more complex and “dynamic” – or virtually dynamic for “active” – with the potential to take on this role of compressor, processor, and transmitter that is organizational and narrative at the same time: “interface” (interconnectors) and “icons” (symbols) at the same time, as proposed by Aaron Betsky,¹⁹ (“interface” as a catalyst and as a channel – “reception and interaction” – “icon” as a conveyer or “transfer” – “scalar leap and vehicle for meaning”). Betsky himself dealt with this contemporary link between the milieu as space of influence and the milieu as space of event (between “architecture” and “landscape”) associating the concepts with the notions of “icon” and “interface” as environments that compress, process and transmit meanings. In a new informational – and digital – environment, which we



In a new information environment that “mediator” nature of an “architecture-machining” - more that of an “architecture-machine” - refers to its new status of interface: that of a device understood as a system, or as an operating environment.

explore at the beginning of this chapter, architecture might aim to be this possible interface – or filter, as Toyo Ito has suggested²⁰ – between a “contextual” – real and local – reality and an “inter-textual” – virtual and global – scenario further beyond. Processing, intersecting and re-stimulating different energies “codes” and “meanings” – conditions and situations – in trajectories and constructions capable of working, precisely, with ubiquity and multiplicity, condensation and dissolution at the same time.²¹

The concepts of interface and icon combined with the notion of landscape bring us back to the idea of “field”, not just as place, but also as a dispositif or device (i.e., as a “scenery” and “scenario”, as “medium” and “mediator”, as “figure” and “background”, etc.).

– Field, again, as framework and as action, as “organism” and “organization”;

– but field, also, as “*lieu and milieu*”, structure and environment; receptor and processor; “transmitter” of energies and movement, in an in-between reality – of interludes and intersections – which is ultimately paradoxical in its characteristics and in the responses associated with them.



11.28. Michael McCoy: *Haptic Software Controller*, 1995
(in Aaron BETSKY: “Landscape and the Architecture of the Self,” *Quadrans* n° 1998).
11.29. *Stelarc & Merlin: Amplified Body Event*, 1997.

1– See KUMA, Kengo: "The period of chaos: digital landscape," in *Quaderns* no. 222, 1999.
 See DELCAN, Juan: "Arquitectura en la era de la electrónica. Arquitectónica," in *BAU* no. 016, 1997 and WEIBEL, Peter: "La era de la ausencia," in *BAU* no. 016, 1997.

2– We have written extensively on this subject in Chapter 4.

For an interesting reflection on these "new maps", see:

– See COSTA, Xavier and KURGAN, Laura: *You are Here: Architecture and Information Flows*, ed. MACBA, Barcelona 1995.

– BALLESTEROS, José Alfonso (editor): "La ciudad que no se ve," *Fisuras* no.5.

3– See HADJISAVVA, Dimitra: "El concepto de lugar en las teorías arquitectónicas: mutaciones," Lecture given in the context of the "UIA-Barcelona 96" congress.

4– To paraphrase Ben van Berkel, urban environments are surrounded, at the same time, by visible fields and invisible fields of "information" – data, flows and networks, stimuli, tensions, etc. – which operate simultaneously in globalized spaces and localized spaces:

"An architecture of dissipative forces should be understood as another virtual pattern rather than a set method; it is assembled as a multiple generator in a complex field of forces.

Working with these forces implies working with different organizational models, generating open energy systems, incorporating "information" that is economic, public, political, etc."

See also LYNN, Greg: "Conversation by modem with Ben van Berkel," in *El Croquis* no. 72, 1995, pg. 6.

5– See AUGÉ, Marc: *Non-Places: Introduction to an Anthropology of Supermodernity*. ed. Verso, London 1995.

See also the reference made by Xavier Costa in "Non-places and the metropolis," *Quaderns* no. 207-208-209, 1995, p.29.

6– See HADJISAVVA, Dimitra: "El concepto de lugar en las teorías arquitectónicas: mutaciones," op cit.

7– See SIMEOFORIDIS, Iorgos: "Transitions," in *EUROPAN III*, ed. European, Paris 1994. European, Paris 1994.

8– See BETSKY, Aaron: "Landscape and the Architecture of the Self" in *Quaderns* no. 220, 1998, pg. 28.

9– "Energies that are often contradictory meet and collide, bringing together virtuality and physicality."

See RAHM, Philippe: "Folds," *Quaderns* no. 220 (Operative Topographies), 1998, p. 61.

10– See KOGOD, Lauren: "The place of the contemporary project," *Quaderns* no. 199 (Armadiños) 1993, pg. 51.

11– See MORALES, José: "Terrain Vague," *Quaderns* no. 214, 1996, p.171.

See also MORALES, José: "Associate, overlap, connect", in *Quaderns* no. 211, 1996, pg. 163.

12– See SHANNON, Kelly: "Re-Politizing the Metropolis: The Strategic Project Approach." Lecture given in the context of the "UIA-Barcelona 96" congress.

13– See BRU, Eduard: "La mirada larga," in V.V.A.A: *Nous paisatges, Nous territoris*, ed. MACBA, Barcelona 1997.

14– See ALLEN, Stan: "Distributions, Combinations, Fields" in *The Berlage Cahiers* no. 5 (Fields), Rotterdam, 1996, p 72.

15– "Fields are shaped as scale-less entities, which can only be defined by certain 'limit' principles, either via coordinates or nets. They are generic configurations, which both relate and articulate specific 'events' at the same time, enriching themselves with the information from specific scenarios, programs, occurrences, interests.

They are, 'forces of risk' and they are always in a state of transformation. They are always 'in movement', in constant development; they are never reconstructed; they are dynamic and complex and they relate with a progressive process of change. [...] Architecture as a field of support, as a density of vectors, as a cluster of links, as an intensity of fields of forces attends to implementations, influences, links, attractions and repulsions; simultaneously.

It attends to the milieu as an essential artifice, taking on the category of 'milieu', whether through 'stamping' (architecture as superficial curves, the expression of a concept), 'gradients' (continuous structures read as pulses of density), 'nets' (architecture as links and nodes of transmission) or 'protrusions-peaks' (discontinuities and peculiarities). Architecture-milieu; milieu and architecture."

See PORRAS, Fernando: "Editorial," *BAU* no. 014, 1996.

16– See MOLINA, Silvia: "El espacio intermedio visual-virtual," in V.V.A.A: *Entorno. Sobre el espacio y el arte*, ed. Editorial Complutense, Madrid 1995, pg. 51.

17– See WIGLEY, Mark: "Prosthetic Theory: The Disciplining of Architecture," in *Assemblage* no. 15, 1991.

18– See SHANNON, Kelly: "Re-Politizing the Metropolis: The Strategic Project Approach." Lecture given in the context of the "UIA-Barcelona 96" congress.

19– See BETSKY, Aaron: "Landscape and the Architecture of the Self," *Quaderns* no. 220 (Operative Topographies) 1998, pg. 28.

20– See ITO, Toyo: "Architecture in a Simulated City," in *Architectural Monographs* no. 41, ed. Academy Editions.

21– In complement, see also: GAUSA, Manuel: "Otro logos, otro locus," in CORTES, José Miguel: *En cualquier lugar, en ningún lugar*, ed. Centre d'art la panera, Fundación MARCO 2008.

"I am Cretan; all Cretans are liars"

Epimenides' paradox.

I. Situations of intrigue and decoding/uncoding

This "dispositive extraversion" of the "reactive" mechanisms we have discussed in these pages, this idea of an "open process", this "beyond", which brings up an implicit scalar leap or a relay of "multi-scalar back and forth", which is present in a period of transversal and holistic research, implies a possible – and paradoxical – situation of ambiguity and ambivalence:

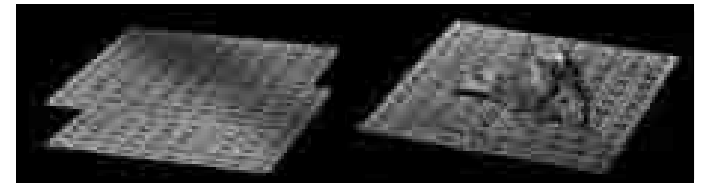
Being in one place – a spatial situation, position – and summoning "many others".

Being local and global.

Specific and generic, contingent and systemic, material and virtual, at the same time.

This is a paradoxical condition that condenses the complex progressive (and also paradoxical) nature of our environment and which increases along with the capacity to combine interaction and information; data, scenarios and trajectories: "levels" and "layers" of reality.¹

This simultaneity, this inform(ation)al polyvalence and ambivalence, this "back and forth" or "synthesizing coiling" between messages and formulations, refers back to the notion of paradox and its relation to the Greek root ***paradoxos***: a reality – a form(ul)ation, an expression, a trajectory – "possible" and, at the same time, "beyond expectation" (i.e., beyond what is "recognized", "pinpointed", "established" and/or "stabilized",



12.1. *G.E.B. shadows*: a single object and the multiplicity of its projections.

12.2. Topological paradoxes: a flat plane is a relief, a surface is a volume.

12 INTRIGUES (AND PARADOXES)

Crossing (and Looping) Trajectories:
Other Formulations, Other statements

“authorized” or “homologated”).

In this condition “*au-delà*”, “beyond”, but also “toward”, we can observe the virtual “meta-logos” of an essentially “open” logic (i.e., “unstable”, “uncertain”, “undetermined”, “unpredictable”, “unformal”, etc.) which refers us back to the positional instability of dynamic systems and complex structures which are the focus of this book.

A logic that expresses, in fact, a fundamentally paradoxical condition at the same time:² within this irregular and apparently disordered order, within this informal, variable, changeable open and discontinuous form, there are underlying shared flexible patterns, codes or criteria for evolution which reveal how the behavior of complex, dynamic and non-linear systems appears closely linked to flexible virtual rules; “indeterminate determinations” of induction and/or generation.

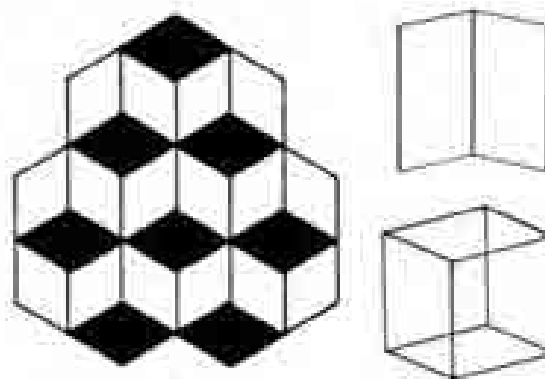
Although complex, uncertain and, often, “unsteady”, i.e., indeterminate, dynamics – and the structures derived from them – are based on patterns, rules or organizations with a certain degree of prediction and recurrence (generic “instructions”, i.e., “islands” or “horizons” of uncertainty, like trajectories or “attractor” diagrams), at the same time, they react to the influence – and interaction – of different and simultaneous levels of information and exchange, conditionally passing up on the system’s generic grammar and, eventually, promoting its “deformation” or “variation”, in the demonstration of a particular flexibility in the face of specificity.³

Dynamics of variation which could even, in certain circumstances, suggest the appearance of “perplexing” situations or unexpected combinations.

“Unmanageable” formulations which appear, on the one hand, as “local trajectories” – therefore, interpretable as revealing form(ul) ations of the system (associated with possible “fields” “of” and “in” movement) – expressed, at the same time, as destabilizing formulations – looping or paradoxical trajectories – in a framework of inertia (in the global convention) of the “host” meta-system.

This possible “glocal loop” –between singular (local) actions and plural (global) formulations, between generic logics and contingent events, between regulatory instructions and possible irregular trajectories– also underlies the open logic of dynamic systems, suggesting the ambivalent, i.e., paradoxical (ruled and irregular, eccentric and multi-centric, determined and indeterminate, structural and nodal) character of form (and order associated with it) as well as the –implicit– possibility of alteration, transgression and lack of discipline.

In the so-called “formal systems” related with programming and language, the usual appearance of these situations of intersection – or paradox – tends to be associated with the interactive quality of language and its ability to produce “limit statements”: “tangled trajectories” or “strange loops”⁴ as possible combinations – formulations – which are as “correct” from the semantic point of view as they are perplexing in the meaning(s) they bring together.



Ambiguous figures and geometries with reversible and/or overlapping connections.

12.3. A surface of equilateral triangles. The black spaces can be read as on the top or on the bottom (Nicholas FALLETTA: *The Paradoxicon*, ed. Wiley, Hoboken, 1990).

12.4. Mach's reversible book, which can be interpreted either as the back or as the pages.

II. Linguistic Paradoxes

These considerations, related to language as a formal, dynamic and interactive system, adhere to the definitions of “paradox” by Nicholas Falletta:⁵

“A truth that resists (or that rises up). In other words, “a paradox is truth standing on its head to attract attention.”

Most paradoxical situations begin, often enough, with a firm action (an affirmation) that is formulated or expressed, which, at the same time, places the action in crisis or in doubt – negating it or disrupting it.

To quote the reflections by Falletta, we find three possible “paradox conditions”:

- 1– An apparently contradictory affirmation which, in reality, would be true.
- 2– An apparently true affirmation which, in reality, would be contradictory (both cases are related to the logic of language).
- 3– A real, operative – or “logical” – statement which, however, leads to illogical, incredible or apparently “impossible” interpretations, because they are a-conventional (this last premise is more in keeping with scientific and spatial logic).

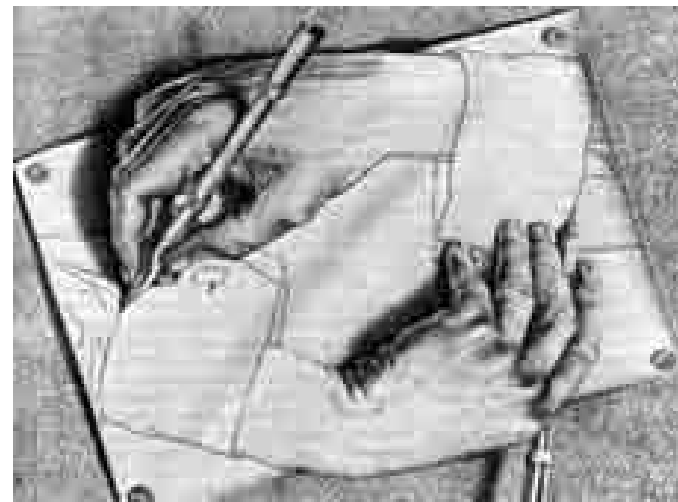
In any case, affirmation or statement, this paradoxical condition leads to a specific – local – reconsideration of the system as the consequence of an unexpected form(ul)ation – i.e., surprising, intriguing, unexpected or uncertain – a result of the strange singular agitation – or twisting – of the overall inertia in the process.

It is common to see these situations of “twisting” in unions between apparent oppositions (like the Cretan Epimenides’ paradox – **“All Cretans are liars”** – or the more well-known paradox attributed to Eubulides – **“A man says that he is lying. Is what he says true or false?”** – or Socrates’ aphorism – **“I know that I know nothing”** – or Zarsala’s – “in nothing there is everything” – expressions which violate initial logics, but which also reveal more complex “meanings”, for

simultaneous) created by this capacity for interaction between information and meta-information, compared and processed at the same time.

In these statements, apparently contradictory information and messages remain recognizable – independent – and, at the same time, ultimately linked – fused – like in the famous “figure-ground” combinations by M.C. Escher⁶ (often plays between “full and empty”, “truth and lies”); this creates strange loops (“vicious and vitiated circles”, interwoven and tangled at the same time) where information, the coding of language and its meaning, flow in an unexpected “whirlpool” between different levels of reading and understanding.

Possible and impossible. Correct and heterodox, because they are enigmatic in their capacity “to be and not to be” and to (re) concile “what is and what could be”.⁷



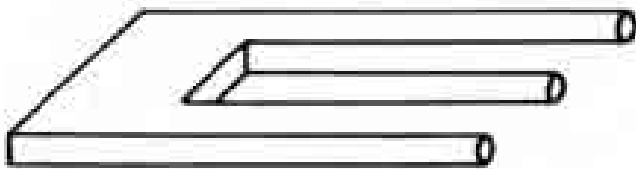
12.5. M.C. Escher. *Drawing hands*, 1948. Paradox and visual formulation. Left hand (LH) and right hand (RH) draw one another, and they refer to a higher level at the same time: the hand that is drawing them (MCE) in a loop of tangled hierarchies. (in Douglas R. HOFSTADTER: *Gödel, Escher, Bach: An Eternal Golden Braid* ed. Penguin Books, New York 2000.)

In these loops of meaning, recurring dichotomies (truth/lie, affirmation/negation, but also unity/diversity, part/whole, small/large, open/closed, natural/artificial, etc.) overlap and shift into new and surprising combinations.

They do not attempt to construct “compositions” based on contradictions, or “extravagances” – which would be the Venturi-esque option, closer to aesthetic irony and the contrast that gives rise to an operating and operative paradox – but rather “interactions” (or “inter(pret)actions”) with the potential to reconcile – to bring into coexistence or simultaneity – apparently “impossible”, or “unexpected”, unheard of “twin” phenomena in a single hybrid dispositif: twinning, cuttings, grafts, etc., heterodox unions and associations which are common in certain disruptive (or absurd) types of humor – from Groucho Marx’s cutting remarks (*“I never forget a face, but in your case I’ll be glad to make an exception”*) to the famous “Greguerias” written by Ramón Gómez de la Serna (*“MMMM: mountain range”*) – and which demonstrate this meaningful “collusion” between different messages.⁸

As Douglas R. Hofstadter pointed out:⁹

“People enjoy inventing slogans which violate basic arithmetic but which illustrate ‘deeper’ truths, such as ‘1 and 1 make 1’ (for lovers), or ‘1 plus 1 equals 1’ (the Trinity). You can easily pick holes in those slogans, showing why, for instance, using the plus-sign is inappropriate in both cases. But such cases proliferate. Two raindrops running down a windowpane merge: does one plus one make one? It is not at all easy to draw a sharp line between cases where what is happening could be called ‘addition’, and where some other word is wanted.”



This synchrony of interpretations, this overlap of affirmations and positions, which are “contradictory” and “coinciding”, refers back to an implicit factor of simultaneity between the limits and facets – or layers – of a multi-phased reality, which presents different “orientations” at the same time. And this positional simultaneity could be compared to a dynamic dispositive (or dispositional) strategy, which fluctuates, waves, comes and goes, between – interpretative, narrative, spatial or visual – contexts that are different (even dissimilar) and connected at the same time.

In this disturbance inherent to all paradoxes – connected with the factors of dynamic instability and informality¹⁰ – any (pre) establishment of predicates is destabilized, favoring a constant play of interpretative (and positional) ambivalences and reversibilities, in breaking with the old bivalent, closed convention – i.e., the old fundamental notion of identity and essentiality between hermetic categories (something is what it is and, therefore, it can’t be something else) – for a more open type of logic – ambivalent and polyvalent at the same time – where the old idea of comparison or contradiction gives rise to a new potential for a multiplying interaction (more ambiguous, vague and fuzzy and, above all, more fluctuating and irregular in its manifestations).¹¹

The brain slips between one interpretation and another, showing this strange condition of polyvalent ambiguity between “recognition” and “translation” (resonance and transfer), fluctuating in nature, which recalls the phenomena of scalar recursiveness (or reversibility) between irregular structures that we have been concerned with here.

“Possible/impossible” figures

12.6. Impossible trident. The impossible trident is based on a “mistaken” connection, possible in two-dimensional space and impossible in three-dimensional space.

III. Systems and Metasystems

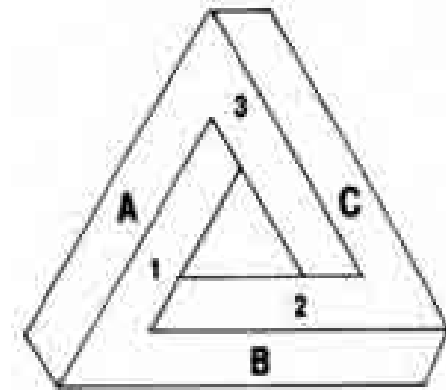
Most reversible or paradoxical constructions show this type of intriguing combination, generated between premises (mental or real images) and statements (arguments, formulations), between logical reasoning (trajectories) and contradictory conclusions (paradoxes, i.e., intrigues) demonstrating this condition in different multi-layered riggings which are revealed as “superinscriptions”¹² between (relational and narrative) “matrices” and/of “grids” and “weavings” of events, where (as we have mentioned before) “figure” and “ground”, “empty” and “full”, “structure” and “infrastructure” are interwoven and connected in a single strategy or dispositive logic, that is more or less recursive, which ultimately alludes to complex, fluctuating and irregular geometries, rather than to strict and linearly “rational” (“Euclidean”) frameworks.

This fluctuation between what is possible and impossible, predictable and impulsive, inserted and outgoing, resonant and transferent, refers to a possible “uncertain negotiation with reality”, which is, ultimately, what all paradoxes propose. The synchronic and diachronic (simultaneous and displaced, fragmented and connected) condition of our time lets us more readily accept this strange hybrid union between the possible and the impossible, the predictable and the transgressive, the systemic and the heterodox, the alternative and the operative – in short – which occurs in all paradoxical constructions and which alludes to different interpretative (and qualitative) levels that combine “real” (objective and objectual) meanings from the system (or language) in question, with virtual (procedural and processing) meanings from a higher metasystem (or metalanguage).¹³

In other words, between a real/real time – or dimension – and a real/virtual time – or dimension.

Certain well-known paradoxical figures can help illustrate this possible interconnection between “trajectories of synthesis” and “trajectories of linkage”, which are closed and open, stable and unstable, at the same time.

One example is the figure known as the “impossible trident”, where the middle prong appears in two spaces at the same time. This “false” connection in the real/real world would be true in the real/virtual world (since the drawn figure would exist).¹⁴ Something, then, could “exist” and “not exist”, “be” and “not be” (because it is “here” and “beyond”, spatially and temporally) in an ensemble of “belonging” and “transfers” between the local and the global, the real and the virtual, the material and the immaterial, which illustrates this “metalanguage” or “language about the multiple levels of language itself”. Ultimately, this is associated with the “multi-layered” nature of the contemporary metapolis, as a manifestation of the increasingly complex urban-territorial mechanism, which we have called a city until very recently, and which, in turn, refers back to the multiple loops of bypass and mutation in a process that is increasingly more open, vague and ambivalent at the same time.



12.7. The Penrose triangle: a demonstration of the triangle's possible impossibility and models in "relief" and in a "curve".
(in Nicholas FALLETTA: *The Paradoxicon*, ed. Wiley, Hoboken 1990).

IV. Quotidian/Extra-quotidian

Today, the growing influence of mobility and physical movement in our surroundings (and the associated feeling of fluctuation) is accompanied by the experience of connectivity and paradoxical displacement created by mass media in our daily lives, intended to increase this sensation of cohabitation and superposition (overlapping and intertwining) between projections and materialities, between “real realities” and “virtual realities” – physical and mirrored – bringing together, in an “uncontrolled” way, scenarios and screens, scales and sphere, hierarchies and images, messages and media:

scenery, scenes and scenarios.

Dissolving the boundaries between work, habitat and leisure; between production and nature; between urbanity and extra-urbanity.

Phenomena of cross-breeding and mixing, change and exchange, where we find this two-fold interactive relationship between “guest” and “host”, between intruding (transferred) information and genuine (native) information; i.e., the “transformative” character of what has been “transferred” and the “distinguishing” character of what is “specific”; the mutual contract of exchange between “endogenous” information and “exogenous” information, which have the potential to influence environments that suddenly find their points of reference to be “out of place”.

As such, as we have pointed out before, this is a time of unusual, surprising, strange and unique encounters – natural/artificial, ordinary/extraordinary, native/foreign, real/virtual, etc. – which suggest a possible disruptions (a ***bouleversement***) in the traditional relationships between man and milieu: a generalized feeling of paradox (like a “dual” simultaneity) which, though it appears to appeal to a general impression of terminological collapse, could also lead to new generative actions that could

demonstrate this ambivalent feeling of loss and birth at the same time: “topological” and substantive decoding and recoding.

Faced with this constant feeling of intersection, simultaneity and displacement, perhaps one of the central paradoxes of this time, however, is that of observing how this accelerated awareness of a potentially innovative scenario of change and exchange – in its everyday and technological manifestations and in the resulting behaviors – tends to come up against scenarios and experiences, routines and inertias that are culturally and anthropologically “slow”: codes, traditions, habits, atavistic – if not anachronistic – satisfactions, bringing face to face – like no other period in our history, perhaps – atavism and innovation, practice and proposition, the commonplace and the unheard of, conservatism and novelty.¹⁵



12.8 “Glocalization and cross-breeding, modernity and atavism
The Mercedes-throne of King Nene Gorleku X.” (*Colors* no. 15, 1997).

V. Paradoxes as Reactivations

In this informational scenario of collisions, encounters and paradoxes, perhaps the most significant of them – related to the propositional capacity of culture, art and architecture at a time of change and transitions – is the dual desire to “coincide” with the surrounding reality and, at the same time, to develop a “critical vision” in and about it: operating, resonating and destabilizing, infiltrating and distancing, again.

The biggest intersection of the contemporary project and its new “reactive” vocation lies in this double push to “accept” and “reject”, to “collaborate” and to “intrigue”, to “attune” and to “distort”, to “resonate” and to “transcend”; in this need to release the creative framework from the excessively codified representative structures (because they are driven by inertia, cliché, by default), and to connect it, at the same time, with a reality that is particularly – paradoxically – prone to what is “accepted”, trivial, universal.

How can we approach reality positively; how can we interact with it and distance ourselves from it qualitatively at the same time?

Probably by acting, jointly, through collaboration and transgression, combined “unpredictably”.

Given this progressively paradoxical dimension in a mobilizing and simultaneous environment –slippery and shifting, varied and fertile, but which also produces and consumes conventions and conventionalisms, “standards” and “iconographies”, “types” and “archetypes” (where the importance of an image would be associated with its value of “attraction” and where a progressive iconic saturation would heighten the acritical indifference of our own perceptive intelligence)– a truly effective critical and suggestive reaction should not be limited to the order of the exquisitely aestheticist –merely episodic– or even intellectually cryptic – “distant” or “disrespectfully” resistant. On the contrary, it should originate from the order of the craftily “forwarding”.

A strategic-tactical action capable of summoning the narrative

and iconic tendencies of reality, disrupting them at the same time, based on ambivalent operations of intervention, invention and imagination; positive and critical; productive and transgressive. Operative and reformulative.

There would be a certain flexible “desire for infiltration” in this action that would move between the two poles we have indicated – intervening and pulling back – using strategies that are simultaneous and different at the same time.

- On the one hand, through the positive assimilation of the system.
- On the other, through the introduction of a new type of recoding statement.

A strange reactive and interactive infiltration, capable of acting through “collaboration” and “surprise” at the same time.

Accepting, re-stimulating and, at the same time, “destabilizing” the dynamics of the global system, re-evaluating – i.e., reactivating – the mechanisms of that reality by disturbing/ distorting or disrupting its routine in a strange loop of local torsion, contortion and distortion, which has the potential to accept and transgress its own “codes” while proposing new ones.

It is worth highlighting this developmental desire for a reactivating infiltration into reality, which confides in a qualitative reinterpretation and/or reformulation of its baseline conditions through the – strategic and tactical – introduction of new formulations and new movements (more operative, in their elastic and fluctuating answers) “in” and “between” the initial – and inertial – movements in the system; through the critical “resonance” of their dynamics and by taking selective advantage of their potential.



Infiltration, interference and reactive intrusiveness in pre-codified scenarios.

12.9. Urbanization in the desert, fragment (Marc RÄDER: Scanscape, Actar, Barcelona, 1999).

12.10. OMA-Rem Koolhaas: Villa dall'Ava (Saint Cloud-Paris, 1995).

12.11. Lacaton-Vassal: Latapie House, Bordeaux (1993).

VI. Intrusiveness

In a scenario as typically inclined toward codification as the current one, it seems appropriate to propose this insubordinate capacity of the infiltrated element, which is an intruder – both “alien” and “attentive” to the data of the context – not only to invert the tendencies, but to qualify them from a new formulation capable of decoding reality, “decoding” its internal logics, “uncoding” its inertia and “recoding” its potentials.

Faced with the inertia of signs as an “exchange value” (this progressive banalization and homogenization of the built object), it is worth putting forward the strength of possible “formulations” that create “intrigues” and, therefore, a “reactions”.¹⁶

Implicit and explicit, positive and critical, strange and eloquent expression; adapted and insolent, at the same time;¹⁷ with the potential to transform rejected proposals into unexpected productive situations. Unexpected trajectories.

More qualitative ones, for more relational.

Not mere occurrences – isolated episodes – or “blockages” (or “short-circuits”).

Not **extravagances**, but rather **eccentricities** (in the system and at its edges at the same time).

Extreme “evolutions” of the system, in effect, and “detours” (via stratagems, ruses and tricks) “derived” from it... and in it.

Strange loops – “inside” and “outside” the system – adapted to – and infiltrated in – specific situations of reality (with the ability to foster a beneficial pact with the factors and agents of its production), which are also intended to stretch beyond their limits.

Combinations based on the simultaneity of data and stimuli, less “homologated” and “categorical” in their manifestations; more open to interaction and intersection; to overlapping and coupling; to “exchange” but also to “interchangeability”.

A new kind of interaction, more informal for more informational.

Intersecting and boundary trajectories (usually, on the limit between places and times) proposed as direct responses to programmatic and relational diagnostics, but also attuned to the communicative – expressive – value of form. And its capacity for re-evaluation. Ultimately “operative” paradoxes, which can be considered as “ambivalent reactions”, but also as symbols and narrative icons of “other possibilities”. As Kelly Shannon pointed out:¹⁸

“Architecture takes on the current post-capitalist condition with new ‘surprising’ actions, while negotiating with it through a new type of brazen action; a transgressive action in the fluctuating state of the market; an action that is free from the old obsession with control, predictability, permanence, hierarchy and limits. An evolving and flexible, ad hoc action.”

It is a strange – singular and artificial, irregular and heterodox, rebellious and transgressive, perhaps irreverent – celebration of complexity, diversity, and ultimately impurity, as a combination of



Interference, infiltration and reaction.

12.12. Silvert Lindblom: Two figures and/in a banister, 1999 (in *Arkitektur* no. 1, 1999).

12.13. NL archs: (Carstadt-Amsterdam, 1996) // 12.14. Abramovic & Ullay. **Performance.**

events, realities, messages and layers of information, which are simultaneous and interactive: expressions, variations, distortions, alterations and/or contaminations that end up deforming, enriching and tarnishing – playfully perverting – the initial parameters and the support (infra)structures, in order to better harmonize, interact and relate “in” and “with” the milieu.

New dynamics that make up a new vocabulary in which action is based on this hybrid contract between territory and architecture, architecture and landscape, landscape and infrastructure, etc. – not as a brutal graft, but as a possible overlap between categories that were previously unconnected.

In these dynamics, the goal is not “dilution” in (or in the face of) reality, but rather to create an “other” type of reality(ies).

Based on operations of intersection and encounter, but also fusion and “transfusion”; of “transfugitivity” (as opposed to desertion) and “interaction” (as opposed to integration). Of “recoding”, through “decoding” (proposing new codes) and “uncoding” (overcoming the old codes) at the same time.



Intrusiveness, infiltration and reaction.

12.15. An intruder causes a stampede in the Dakar-Cairo rally.

Photograph: EPA/Patrick Herzog (in *El periódico*, January 9, 2000).



VII. Images “on the edge”

In this sense, it is interesting to highlight the contemporary exploration of the idea of a “limit” as an ambivalent space (linked to the concept of “paradox”) and its relationship with the acceptance of crossbreeding, or of impurity, associated with the conceptual substance of paradox. We see this, habitually, in certain “contemporary” disciplines, such as cinema or publicity that are capable of generating “images on the limit” which bring together, sometimes unnaturally, different elements, situations, references, codes or energies through an intensification of the idea of a crossroads (images that are “on the edge” of things and events).¹⁹

If the power of conviction is still rooted more in stimulus than in constraint (in the emotional capability of the suggestive, a real desire for communicative exchange), the creative challenge today is to continue establishing – despite a growing cognitive indifference – images which are not only forceful, but also convincing: situations of intrigue and surprise that are both unheard of (i.e., unexpected) and constructive (i.e., revealing). The strength of architecture that is conceptually inductive and narrative (often “diagrammatic” and “ideogrammatic”, a trajectory of synthesis, between “n-related” and activated stimuli) is then shown to be paradigmatic of an operative “action” that would be open to new relational keys, based on the instrumentalization of expressive intersections, appropriations and movements.²⁰

Proceedings in which the largest capacity for innovation lies precisely in this attempt to make the approach to a (nearly) coincidental order into a working material, where a strictly functional approach to the project is combined with this capacity for expressive shock inherent in contemporary culture, where the old scale of slow and predictable movements is replaced by a new situation of fragile stability between mediation and manipulation, control and spontaneity, rigor and fantasy;²¹ a

Denaturalization-decoding-reaction-reactivation:

12.16. Vito Acconci: Personal Island, 1992. “Natural-Artificial”.

12.17. Image on the limit; scalar leap and denaturalization. Tagheuer advertisement, 1994.



Nature and artifice.

12.18. "Express yourself." Advertisements for Ericsson, 1997 and The Frederic Homs Own Wear.

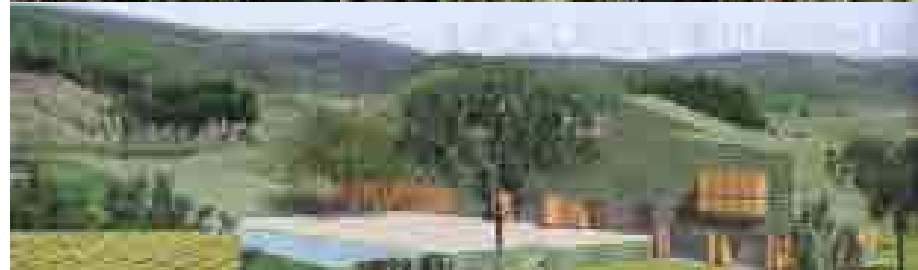
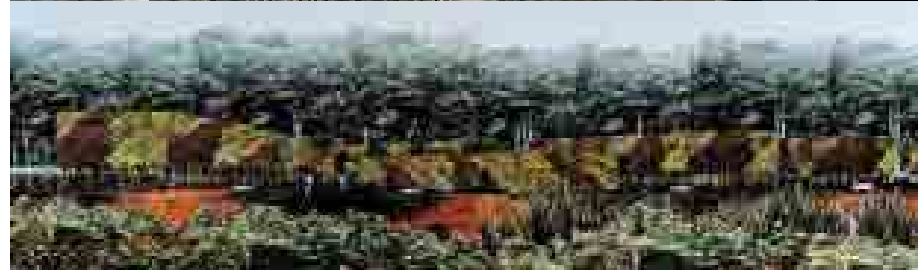
12.19. Roche, DSV & SIE P.: Cultural Center (Réunion, 1997).

12.20. Actar Arquitectura: M'Houses (1998-2000).

12.21. Lewis & François: Rural holiday retreat in Jupilles (Compiègne, 1997).

12.22. Ábalos-Herreros: Green House (Madrid, 2001).

12.23. Vicente. Guallart. Green El Corte Inglés (Barcelona 2000).





desire that ultimately reveals the ability of contemporary design to acknowledge two important assumptions.

- On the one hand, the transfer from simple classical artifice – the more or less bizarre or ingenious mannerist deformation of nature – to what is decidedly artificial, singular, unusual, new, “original” (as the “founding of the origin” rather than a “return to the origin”).
- On the other hand, the ability of contemporary culture to “transcend the circumstances” and associate actions with structure processes – but also with new “informational scenarios” – which, in turn, have the potential to connect events with other, superior scales, which are in synergy with the scenarios that are generated in the surroundings.

This is the potential strength of contemporary art and architecture, and one of the major challenges: producing new systems able to generate form, according to a new creative attitude born without prejudices, confident in the possibility of encouraging positive redefinitions in a reality that is, in turn, open to the collision of forces and references, and which, as a result, can only be approached based on the conception of new “relational dispositifs” that can condense both the tensions of place and the other energies characteristic of global contemporary space.

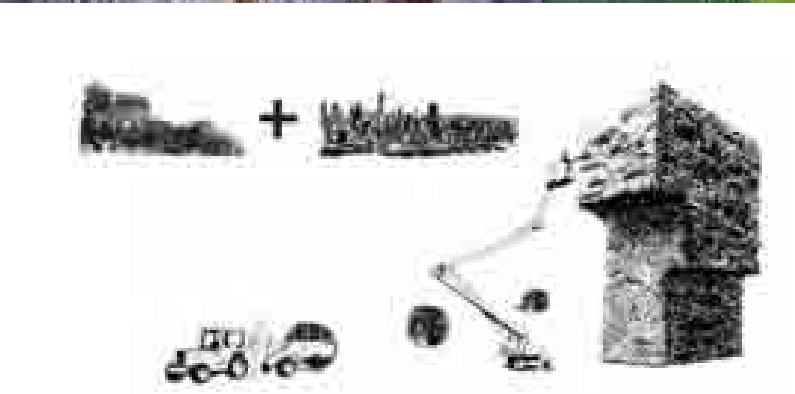
Local responses, global projections.²²

Dispositifs which are capable, at the same time, of generating “evolving spaces” (scenarios) and “reactive mechanisms” (paradoxes): operational and operative.

Natural-artificial paradoxes.

12.24 FOA: *Virtual House* (1997).

12.25. François & Lewis: Project for a water treatment station (Nantes, 1995).



Nature and artifice. Denaturalization, decoding, paradox and reactivation. Linked images "on the limit" of categories, environments, landscapes and scenarios.

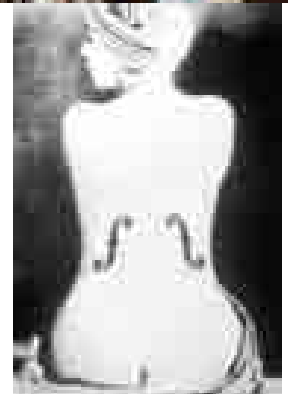
12.26. Pau de Nooijer: "Electriclawnmowingiron" 1977 or "Ironing the landscape" (in Archis no. 10 1996).

12.27. Peter Walker & Martha Schwartz: Whitehead Institute. Splice Garden. M.I.T. Campus, 1986.

12.28. and 12.29. West 8-Adrian Geuze: Vertical gardens (New York, 1997).

Naturartificial coupling: "buildings as landscapes, landscapes as buildings".

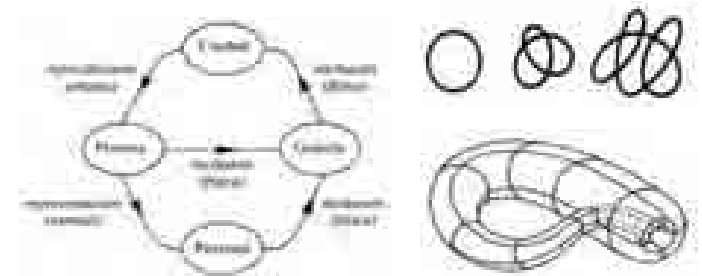
12.30. Man Ray, photograph: Violon d'Ingres, 1937.





VIII. Loops of Meaning and Architectures of Paradox

Both in the field of architecture and in other plastic arts understood as formal – and spatial – systems, which are actually or potentially dynamic, there has been – as we indicated in chapter 2 – a reassessment of the archaic oppositions associated, until very recently, with the recurring constants of a “disciplined” and “inertia-based” thought. Oppositions such as “unity-diversity”, “part-whole”, “small-large”, “open-closed”, “movement-rest” are no longer divided, like in the rational deterministic tradition, levelled off, neutralized (or smoothed over). Rather, they can be potentially activated and inter-activated, simultaneously fused and made in(ter)dependent, reconciled in “twinned structures”: It is not a call to contradiction (between “thesis” and “antithesis”) or an absolute “sublimation” into a superior state or category, but rather the explicit demonstration of a new capacity for informational interaction.



12.31. M.C. Escher. Print Gallery, 1956 and Klein bottle.

Original print with an overlapping of the deformed internal layout: a picture gallery where a young man stands observing the drawing of a ship anchored in the port of a small city, where a woman leans out a window just above a picture gallery where a young man stands observing the drawing of a ship anchored in the port of a small city...

12.32. M.C. Escher. Print Gallery, 1956. Diagram of its different levels of coiling and layers of reading (in D.R. HOFSTADTER: Gödel, Escher, Bach: *An Eternal Golden Braid* ed. Penguin Books, New York 2000).

12.33. Moebius strips and Klein bottle.

In a “twin phenomenon”, real or imagined – a loop, a paradox, a spiral – opposites continue to be recognized as opposites – similar to what happens in a hybridization or an “anti-typological coupling” – and, at the same time, they interact together – combined – in new contracts and meanings, as “layers” which are both recognizable and interwoven at once.²²

In the very notion of a loop (implicit in any paradox), we see the idea of an expansive and irregular development – “in a spiral” – that is characteristic of any evolving and entropic process; but also the idea of “coiling” (or a “tangled hierarchy”) as a trajectory that can cause, surprisingly, different overlapping levels – i.e., territory, city, landscape, building, etc. – to converge on themselves (like the famous Klein bottle), violating any established hierarchical principle.

A strange capacity for “interactive connections and links” between “systems” and “metasystems”, where new and surprising cross-cutting formulations can be recognized, in which **“a sentence refers to other higher sentences which, in turn, refer to the first sentences”**, in a circular play of resonances and transfers that emerge or arise from a starting point and develop, and progress, and relaunch the starting point, joining together, as we pointed out earlier, different levels of interpretation (like in Godel’s famous theory which uses mathematical reasoning in exploring mathematical reasoning itself).²³

In the case of most of the dispositifs we have discussed here, their “image” and their “form” refer to their own configuration, which, in turn, refers to the configuration – and structure – of the city that is then related to the structures of the space time processes, of open configuration and distribution, associated with the spontaneous behaviors of fluctuation that characterize dynamic organizations – dispositions – which are “similar to” or “recursive with” those of the dispositif in question.

This “extroversion” of form “beyond” itself and its circumstantial movements, this transversal “a-scalar” quality that is recursive “in” and “with” the milieu, creates a temporary situation of “intrigue” when it promotes not only “unexpected” unions or

“impossible” combinations, but also “scalar leaps” called upon to overstep the local situation in order to talk about “other” global dimensions.

Promoting “trajectories” and/as “formulations”.

Local responses and global projections, yet again.

The notion of “positionality” – i.e., the confidence in the precise and fixed position of a typological or essential category – makes way for the concept of “dispositionality” (that of a mutable position, that is open to (inter)change, inscribed in a dynamic, interactive, open process, and therefore implicitly unstable and irregular – i.e., informal).

Therein lies the strength of paradox.
 In formulated alternative trajectories, for interactive.
 Informal trajectories, for informational.
 Expressions of “other possibilities”, generated using –
 apparently – impossible formulations.
 Capable of being in the “system” while outside of its
 conventions.
 Of adapting to the particular and skipping to the general.
 Of shifting to generality and then returning to particularity.
 “Loops” of meaning, with the ability to:
 Gather together and skip around.
 Refer to a place while stepping beyond that place.
 Propose a formulation while revealing (an)other(s).
 Exist in one form and promise many others.
 Be a type and an anti-type, at the same time.
 Move in one time and refer to other times.
 Attend to the local context and refer to the global processes.
 Respond to the system and to contingency.
 Articulate – and orient – order, without imposing control.

We have already discussed this – reactive – aim,²⁴ innovative and transgressive at the same time, inherent in contemporary design and its ability to formulate new (and old) paradoxes. Combinations intended to disrupt the orthodox (and secular) divisions and codes of the discipline, coupling dissimilar

concepts (“above and below”, “exterior and interior”, “figure and ground”, “public and private”, “volume and surface”, “building and landscape”, “landscape and infrastructure”, “infrastructure and building”, etc.) in new hybrid unions – or “couplings” – which (as we have pointed out) allude to the interactive, inform(ation)al and extroverted nature of order and form (and the associated factors and parameters) that we are concerned with here.

From the famous roof-ground of **F.O.A.’s Yokohama Ferry Terminal** (a “fluctuation”, but also “a landscape above another landscape, “fullness as emptiness”, “building as ground”) to the impossible cantilevers in **MVRDV’s WoZoKo building** (a “conglomerate”, but also “a vertical growth, horizontally”; from the hybrid configuration of **W.J. Neutelings’ residential complex in Sittard** (a “conglomerate” too, but also a “compatible coupling of incompatible genes”) to the continuous fluctuation of **O.M.A.’s Jussieu library**, or the multi-layered unfolding of **MVRDV’s Villa VPRO** (an “enclave”, but also an “expanding retreat”; from the strange “weightlessness” of Toyo Ito’s Sendai Mediatheque (a frame, but also “a structure of – and above – voids”, a “dissolved matter”) to the fluid profile of **Frank Gehry’s Guggenheim Museum** (“a liquid matter”, but also the virtual sublimation of an immaterial “field” of forces); or from the ambiguous nature of the “grafts” by **Duncan Lewis and François Roche** (“a building like a landscape”) to the vertical gardens by **Adriaan Geuze & West 8** (“a landscape like a building”), the true cultural dimension of contemporary design is rooted in its capacity to formulate “new and strange paradoxes” – rebellious trajectories – where, for example,

“The roof of a building can be, at the same time, its main floor”;
 “a growth can sprout horizontally”; “a building can also be nature”; a conjunction can be a disjunction; “different overlapping levels can become a single unfolded level”; “matter can be fluid”; or “weightlessness can be supported by dematerialization”.

This is not just a linguistic action, since the goal is not just to explore language, syntax, or poetic metaphor.
 The true meaning of this type of architectural paradox lies in its

capacity to generate new “experiences”, new “structures”, and spatial “natures; which are significant, incisive and transgressive at the same time.”²⁵

Spatial trajectories with the ability to respond to local demands and to synthesize possible global formulations.

Which belong to a new informational time.

Case and class, once again.

Paradoxes, then, for a new architecture called upon to generate complex processes using mechanisms which are often simple.

An architecture of information and interaction, which demands a new logic that is “precise and indeterminate at once”; stable and committed to evolution; active and interactive.

That of an “extroverted” form (associated with an inform(ation)al order) with the potential to foster images intended to translate – like visual aphorisms – new expressive avenues of action.

New operative paradoxes.



12.34. Dual intelligence, figure-ground, true-false.
 (in Douglas R. HOFSTADTER: *Gödel, Escher, Bach: An Eternal Golden Braid*
 ed. Penguin Books, New York 2000).

1– See the considerations discussed in chapters 1 and 4.

2– See BRIGGS John: *Fractals: The Patterns of Chaos*, ed. Thames & Hudson Ltd., London 1992, ch.7.

3– See HOFSTADTER, Douglas R.: *Gödel, Escher, Bach*, ed. WH Freeman and Company, New York 1982.

4– Ibid.

5– See FALLETTA, Nicholas: *The Paradoxicon*, ed. Wiley, Hoboken, 1990.

6– See HOFSTADTER, Douglas R.: *Gödel, Escher, Bach*, op.cit.

7– See ROCHE, François: "Materials: a low-technology inventory," in 2G no. 3 (Landscape Architecture), 1997, pp. 6-7.

8– The term "twin" is used as a translation of the French "jumelé".

See the reflections in STRAUVEN, Francis: "L'orphélinat d'Aldo van Eyck," *Bulletin de l'École d'Architecture de Versailles*, 1997.

9– See HOFSTADTER, Douglas R.: *Gödel, Escher, Bach*, op.cit.

10– See 10– See FALLETTA, Nicholas: *The Paradoxicon*, op.cit.

11– Ibid. p.18.

12– Ibid. p.39.

13– Ibid. p.96.

14– Ibid. p.66 and p.73.

15– See CERTEAU, Michel de: *The Practice of Everyday Life*, ed. University of California Press, Berkeley 1984.

16– As Alejandro Zaera reminds us in referring to O.M.A.'s work, these dynamics appeal, on the one hand, to irony (humor, aplomb, the instrumentalization of informality, as a weapon for desanctifying and decoding in the face of messianic utopia or unyielding solemnity); but, on the other hand, it calls upon the optimistic reintroduction of desire (stimulus, fantasy, innovation) as a factor for "everydayness", but also as a tool for escaping purely descriptive, technocratic and (or) conventional planning. Bringing to life new, more exciting and excited images – iconographies – in that they are uninhibited and desnaturalized/izing, no longer conceived as mere – evocative – figurations, but as latent trajectories: at once, the promise of new potentials.

See ZAERA, Alejandro: "The Day After: A Conversation with Rem Koolhaas", in *El Croquis* no. 79, 1996, pg. 19.

See GAUSA, Manuel: "Infiltration" and "Intrusiveness" in V.V.A.A., *The Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2000.

17– "The image can also be a 'word' which provides for the passage from thought to reorganized matter."

AURICOSTE, Isabelle: "Yves Brunier: narrator" in *Quaderns* no. 217 (Land-Arch), 1997, p. 143.

18– See SHANNON, Kelly: "Re-Politicizing the Metropolis: The Strategic Project Approach." Lecture given in the context of the "UIA-Barcelona 96" congress.

19– See FALLETTA, Nicholas: *The Paradoxicon*, op.cit. pp. 14 and 15.

20– "Movements which act through variation, expansion, crossing, recycling, adaptation, analogy, capture, grazing, modification...through new associations and transversalities..."

See ROCHE, François: "Materials: a low-technology inventory," op.cit.

21– For a note on the issue, see *Housing: New Alternatives, New Systems*, ed. ACTAR, Barcelona 1998.

22– We might indicate, like the architects njiric & njiric how:

"The true beauty of architecture consists of this definitively "synthetic" clamor".

See the text by the architects njiric & njiric in the Archilab catalog no. 1, 1999.

23– "Intuition sense that there is something mathematical involved here. [...] And, just as the Bach and Escher loops appeal to very simple and ancient intuitions – a musical scale, a staircase – so this discovery, by K. Gödel, of a Strange Loop in mathematical systems has its origins in simple and ancient intuitions. In its absolutely barest form, Gödel's discovery involves the translation of an ancient paradox in philosophy into mathematical terms. That paradox is the so-called Epimenides paradox, or liar paradox. Epimenides was a Cretan who made one immortal statement: "All Cretans are liars." A sharper version of the statement is simply, "I am lying"; or "This statement is false". [...] It is a statement which rudely violates the usually assumed dichotomy of statements into true and false, because if you tentatively think it is true, then it immediately backfires on you and makes you think it is false. But once you've decided it is false, a similar backfiring returns you to the idea that it must be true. Try it!"

See HOFSTADTER, Douglas R.: *Gödel, Escher, Bach*, op.cit.

24– See GAUSA, Manuel: "Paradoxes de l'architecture nouvelle", in *Beaux Arts* no. 179, April 1999, p. 15. See also "Reactive architecture: proneist frame", in *Quaderns* no. 219 (Reactive Architecture) 1998, p. 5.

It is also worth citing the studies by Chris YOUNÈS on "Paradox and contemporary creation", in particular his reflections on the notion of the "unexpected" presented during the colloquium "Architecture, philosophie et imagination," which YOUNÈS directed together with Jean Pierre Chupin in Montreal in October 2005.

25– "[Many of O.M.A.'s projects] draw upon the basic tactics of reductive *disestablishment* developed at Jussieu: the aggregation of program to generate an event-structure incongruent with program, the reliance on generic form to suppress historical or typological reference, the use of infrastructure-like organizations to liquify rigid programming into non-specific flows and events, and the erasure of *poché* to weave together exterior, interior, vestigial and primary spaces into a frank differential matrix that rids the building of the hackneyed, bourgeois niceties of cosmetic hierarchies."

See KIPNIS, Jeffrey: "Recent Koolhaas," in *El Croquis* no. 79, pg. 30.

Part 6

OUTCOMES

Epilogue and Conclusions

13. FINAL SYNTHESIS

On the Emergence of a New Framework for Action

14. MANIFESTO: FINAL DECALOGUE

21 Operative paradoxes

Two flight trajectories (or "Bird intruding on an aerial exhibition").

Photograph: Ricard Cugat (in *El Periódico*, September 24, 2000).

The open logic we are concerned with here moves between the deterministic logic of rigidly "guided" trajectories and the random logic of merely chance trajectories: a certain conception of the idea of order as "dynamic agency", capable of orienting, relating and articulating different, not always harmonious, information in new, more irregular and impure dispositions.

13 FINAL SYNTHESIS

On the Emergence of a New Framework for Action

I. A Framework for a Network, or Why do we need a new architecture today?

Throughout the previous chapter, we have defended the historic emergence of a new framework for action which is no longer identified with more or less localist or particularist customs, manners, inertias or models, but which is derived from a new common awareness related to a new capacity for informational exchange and interaction.

A global framework – translated, at the same time – into local research processes – aimed to respond, with a new conceptual and procedural tool set, to the new conditions of contemporary reality.

- A framework where, beyond identities and rivalries, references and competition, we can see a clear desire for proposal based on a profound change of perspective and a shift in concepts, concerns and formulations, which brings together shared attitudes and common goals, produced beyond the context, in varying cultural spaces.
- A new “framework for a network” defined more by the complicity among lines of research and experimentation than by the strict adherence to “dogmas” or specific models.
- A “framework for research” that can be used to propose a new way of understanding the old notions of order, form and organization; and, therefore, a new way of understanding architecture itself, among other disciplines.
- A “framework for exploration” connected to a period of social, cultural and technological change, intended to favor different approaches to new (and old) problems.

A framework for recognition that is not only intended to embellish “circumstances”. It is meant to take on the key elements that define contemporary reality honestly, with energy and precision, but also uninhibitedly.

Infiltrating it – becoming implicated in it.

13.1. The slide. Photograph: Bru Rovira (in *La Vanguardia*, August 20, 2000).

Celebrating diversity. The old pyramid built by Enver Hoxha in Tirana, intended as an essentialist mausoleum, is now used by children as a slide.

Addressing the processes and the factors that determine it. Registering the data from the environment, without inertias or biases, and making the best inventive use of the new tools. Understanding “the nature of things” in order to act on them. – A new “framework for action” involved with a desire to reactivate not just the architectural discipline, but the social, cultural, economic and productive reality, which summons it and defines it at the same time, and which implies, as opposed to an acritical – and/or cynical – acceptance of a “milieu for fluctuation”, a desire for an activist implication to positively redirect the processes.

This framework for a network, its first intuitions and theorizations, its initial trials, its pioneering approaches to the notions of – conceptual and scalar – complexity and transversality and its design experiments, is what we have aimed to gather in this volume. A new network territory where the old confidence in the trade as a transmitter of manners and methods will have given way to the need to generate transversal fields for research: proposing questions, offering responses. Possible hypotheses – and syntheses – of (and for) scenarios that are potentially more complex but not any less potentially qualitative.

That of a new “operative optimism”¹ that is less arrogant than the strictly modern doctrinal perspective (more ready to accept the logics of the surrounding reality and its implicit capacity for qualitative reorientation), which can be seen in multiple facets of contemporary exploration, interpretable as autonomous “elements” of a hypothetical shared joint action. The very notions of model (as a referential foundation) and discipline (as an autonomous and coherent body) will have fallen away, then, before the new challenges of a time of change and exchange. Old inherited habits will no longer be needed, but rather new approaches, both unusual and unexpected, as well as decidedly propositional, and which demand, in turn, the reformulation of old professional and pedagogical inertias.

The old configuration of structures and models will give way to the formulation of potentials. The question, then, is not to continue trusting in “self-feeding” trappings, or to continue paying honor to hypothetical educational practices derived from “exceptional personalities”, but rather to value the emerging movements and dynamics associated with trajectories that are individual and collective at the same time. As opposed to the usual “isolated trajectories”, we should be interested in possible “linking trajectories” with the potential to reveal the evolution of a (new) architecture that is proposed in relation with the conditions of its own particular time.

Conditions that would be approached through a probing gaze, focused on multiple phenomena, stimuli and demands, which are implicated in contemporary reality, and the agents that are called upon to manoeuvre in it and influence it. That being said: How does the reality we are referring to present itself? What conditions does it tend to abide by? Probably, as we have pointed out before, those of a more heterogeneous and complex environment, that is more dynamic and atonal, more disperse and vague, more diverse and simultaneous and, nevertheless, more open to a plural interaction, i.e., to exchange, to contamination, to blending. Recent decades have confirmed the evidence of a spectacular scalar leap in the definition of our own spaces for relationships and cohabitation – our habitats – tied in to the increase in mobility and communication from a distance, the delocalization of relations and the technological and material transformation of our environment, which has exponentially demonstrated the dynamic nature of cities, societies and territories. And this “scalar leap” or transfer between scales is what we have focused on in these pages, as the first methodological approach to a new type of space that is more dynamic and ultimately “open” in its formulations.

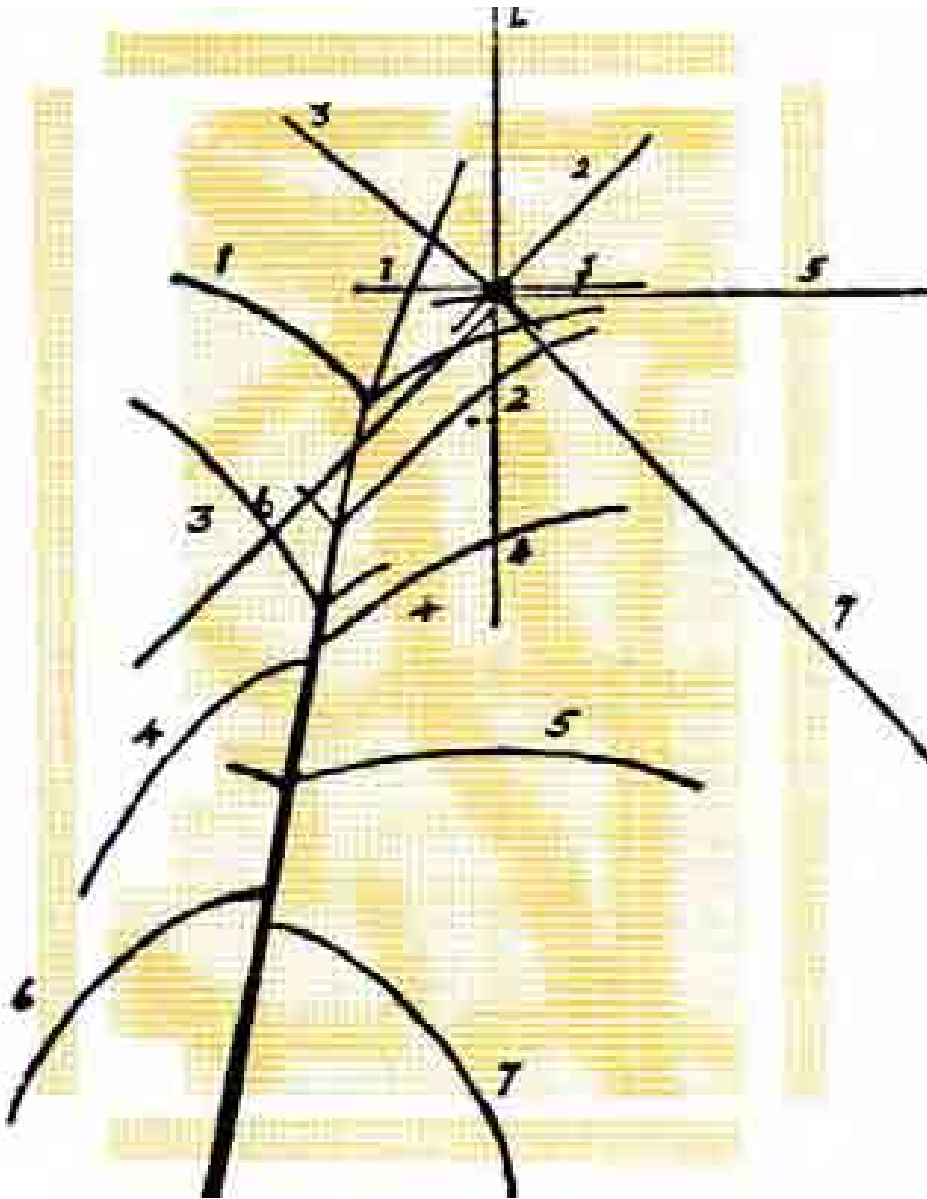
II. Logics of Interaction

The city, i.e., its multiple definition as a “metapolis”, its varied manifestations and its structural mutations, have been the object of particular attention in recent years, revealing the “new” nature of a complex organism in rapid transformation: a system that is dynamic and non-linear at the same time, associated with complex processes of operative interaction generated between “networks of connection” and “layers of information”.

A “multi-layer” structure that is progressively heterogeneous and irregular – in global and local interaction – which responds, with a growing level of complexity – i.e., with a larger degree of synchrony between different layers of exchange – to basic patterns of development related to the patterns that characterize most of the “space-time” dynamic distribution processes that govern our universe.

In recent years, these processes have summoned up an approach to the city and the territory formulated from new points of view that are proposed from beyond the paradigms of traditional urban planning (fabric, surveying, building, layout) and removed from the old desires for “disciplinary autonomy” that had characterized the final decades of the 20th century.

An approach that, on the contrary, attempts to combine cross-cutting influences and contributions from the spheres of physics and mathematics (chaos theory, fuzzy logic, etc.), computation (data processing, programming, etc.), biogenetics (patterns of evolution), thought (new literature, new philosophy, etc.), anthropology (interaction phenomena) and art (Land Art, New Conceptualism, Situationists), etc., not just to propose new possible aesthetics – other imageries – but to explore, above all, a possible – and new – transversal – interactive – condition between territories and scenarios.



Dynamics that allude, again, to a new definition of design as a relational device (*dispositif*), rather than as a mere compositional or positional response: an informational operation – a reactivation – with the ability to react in and with the environment and to “cause it to react” at the same time.

It is a new informational approach, which translates this new transversal (or “trans-territorial”) sensibility that is more open to promoting a greater multiplicity and simultaneity of messages, of the information generated in differential conditions that are not always cohesive, but rather “interconnected”.

And, therefore, to encourage a new type of “open logic” in the design approach to space, which has the potential to direct and articulate diversity in more heterogeneous and “impure” structures (i.e., structures that are more sensitive to an n-dimensional and differential interaction).

The foundation of this work has been to recognize – based on a variety of initial and intuitive proposals – this capacity to conceive new design spatial devices – strategies – and new linking trajectories between complex, distinctly dynamic systems and open, largely irregular structures – organizations.

We have referred to this need to promote the investigation of new strategies for intervention and design associated with this new type of relational logic, which is more sensitive to complexity and, therefore, to the capacity to generate varying interactions between simultaneous levels of information:

- Interactions between general systems (strategies) and specific events (trajectories), combined in flexible formulations, which are freer and more uninhibited in their movements (open dispositions).
- (Possible) interactions between diverse and variable generative systems, combined in mixed sets of evolution and adaptation.
- Interactions between said processes, their declinations and the context itself – or the environment – where they unfold.

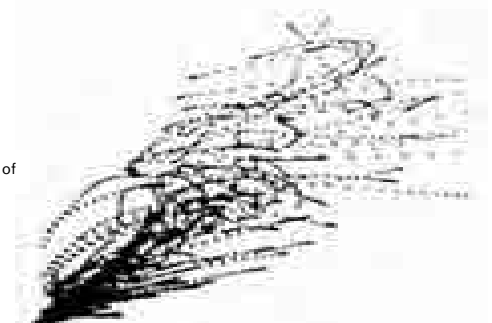
- Interactions, finally, among processes, systems and higher meta-systems (cities, territories or landscapes, surroundings and environments, etc.).

This possible coincidence of interactions translates this break with the old purity (or coherence) in terms of a project's typology, morphology, scale, or size, which is suddenly shown in new frameworks of informational intersection and exchange.

This possible interactive coexistence between information, relationships and cross-cutting interconnections calls together a new nature for contemporary design, no longer conceived as a productive (or reproductive) object, but as a co-productive, i.e., relational, environment – or field. Given this potentially interactive condition of the milieu (context and environment), our mission as specialists in not only to “create” forms in space, but to promote qualitative “relationships” in it, through the definition of developmental strategies with the potential to promote more open actions – and situations – in that they are “empathetic”, receptive, adapted to basic operative criteria and flexible horizons for evolution.

Actions understood as materializations of latent “fields”. “Fields of forces”, “fields of maneuvers” and “battlefields” at the same time; i.e., “open fields of movements”, in synergy “with” and “in” a real and vocationally more complex milieu.

13.3. Scot Vertex: expansion of trajectories in a medium.



III. Complexity and Impurity: Celebrating and Articulating Diversity

Talking about complexity refers to the dynamic and heterogeneous conditions of an environment – a period, a culture, a technology – destined to multiply information and exchanges, while favoring a growing feeling – and freedom – of “displacement”, created on all levels and in all directions: in the movements, the relationships, the expressions and the spatial manifestations of the processes associated with them.

The notion of complexity alludes to this: the capacity to combine and merge – activate and interactivate – multiple and not always harmonious information into a single infrastructural framework of (inter)relation.

A defensive (or overly vigilant) perspective on architectural action – in fact, a more traditional one – would expect to work “from” complexity to limit its effect, to “essentialize” its manifestations: quieting movements, stabilizing trajectories, refining information. Foreshadowing and prefiguring its own heterogeneous dynamics – in order to control them.

A more optimistic and positivist vision of architectural action proposes working “with” complexity to mobilize – and maximize – its combinatory potential. Synchronic potential.

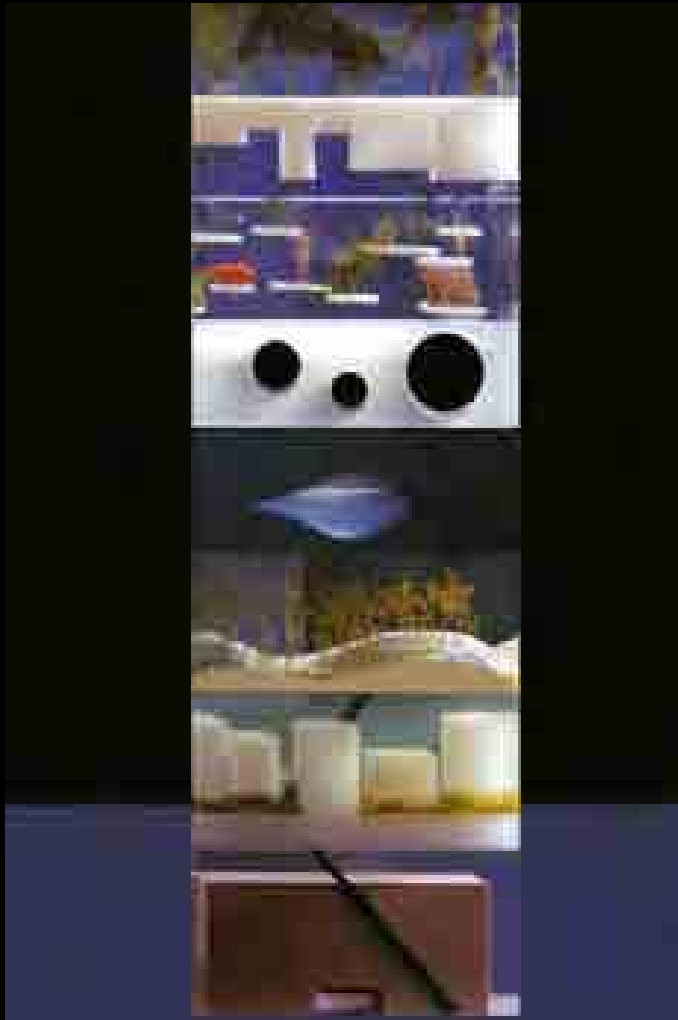
Throughout this text we have commented on this possible complex, open and interactive, nature of contemporary design. Its ability to “resonate” better with this “multiplied” and un-cohesive condition of our – informational – time by proposing, again, rather than object-architecture (essential, severe, rigid, static and/or mute), environment-architecture (systems, strategies, processes or operative devices) that are precise and open, capable of encouraging a higher degree of freedom, dynamism and mixture, recalling the contemporary “suspense” of what is simultaneous and “irregular”.

And in this celebration of the complexity of our time, we ultimately recognize a positive assumption of diversity (and the

irregularity linked to it), which lies at the very foundation of these potentials and the associated design strategies.

- 1– On the one hand, a diversity (or irregularity) that we could call combined – or combinatory – and that alludes to conjugated processes of agency – articulation, but also reassessment and restructuring, assemblage or intersection – among ensembles and/of operative codes that would be re-appropriated, reinterpreted and reformulated: morphological, technological or structural.
A blended diversity that translates into a new “strategy of form” that is more vocationally operative.
- 2– On the other hand, a diversity that we could call “generated” – or “genetic” – and that alludes to the possible variable development (or evolution) – variations and variances – of a single pattern (or family) of evolving and/or infrastructural codes.
A generated diversity that translates into a new “genetics of form” that is more voluntarily processive.
- 3– And, lastly, a diversity that we could define as “agreed upon” or “shared”, which might lean toward both at the same time, in co-participation.

While, in the first case, we would be dealing with strategies conceived using “maps of combined (or negotiated) data”, in the second case we would be looking at actions proposed as “maps of processed data”. Between both of these concerns – that of a new, more operative “strategy of form” and that of a possible, more generative “genetics of form” (i.e., between a reconciling and reformulating action that tends to promote operations involving combination, intersection and encounter among information and events; and a generative and processing approach that tends to maximize its morphologic (and morphogenetic) capacity, encouraging the development of processes of formal evolution and organization) – most investigations today fluctuate, associated with this new recodifying consciousness of dynamic processes and the



13.4. Smiling Face Building. MVRDV. LNW. New headquarters of the Ministry of Agriculture, The Hague, 2000.



13.5. Karl S. Chu (X Kavya). *Genetic Space-Phylogon 1*.

structural diversity and irregularity that has occupied us throughout. Most probably, in a new moment of exploration and search, they will no longer need this epitomical exchange between project and city to justify or promote their own dynamics of configuration.

A – Strategy of Form and Action-Architectures **Direct Logic and Strategies of *Détournement***

In a possible “critical negotiation with the real”, we recognize a new “incidental” intent: that of *dispositifs* which maximize their desire for (re)active intervention and intrusion in the milieu, through the explicit expression of their – implicit – strategic and relational will (or, if you prefer, synstrategic, synthetic, synaesthetic and strategic, all at once).²

In other words, through the reformulation and/or manipulation (variation, combination, permutation) of those mechanisms that emerge from the production processes taking place today, opportunely re-codified.

An architecture that is laid out, based on a resoundingly manipulative strategy (“destandardizing, as Frédéric Migayrou might call it, or “parastandard” for us, as a kind of disruptive strategy, infiltrated in reality)³ intended to recodify the patterns of a certain prototypical (standardized) and prearranged (postmodern) routine, through a possible assimilation and perversion (or disturbance) of its working behavior, based on new reevaluative actions that can effectively combine “cause” and “effect” in possible *dispositifs* of collaboration and transgression, which are both decidedly “operative” and implicitly “provocative”.

Dispositifs that show up as “a continuation and a break at the same time, as strategies for exploiting and dropping the system itself”.

New actions of “détournement” – disturbance – intended to reinform reality operatively based on the strategic reappropriation and re-codification of its own production codes.

B – Genetics of Form Animation-Architectures **Genetic Logic and Digital Development**

In this sense, and though they are related to many of the aforementioned considerations, other lines of investigation have preferred to delve more intensely into the “generative” capacity of these new *dispositifs*, maximizing their “procedural” nature and, therefore, the exploration of complex “systems” associated with the growing instrumentation of numeric and digital information – of information technologies – and their active participation in dynamic environments: a new “genetics of form” called upon to encourage programmed mutations based on processed information.

Technological advances let us think about this more animated and complex nature of architectural form and the movements that articulate it, made up of “real” experiences and “virtual” simulations produced in a universe of digital data, which is conveniently vectorized.

A new conception that, without denying the need for gravitational structures, would let us create new formal possibilities “beyond” them, linking those approached to evolving, multidimensional, fluctuating conceptions, fostered by the emerging use of computation and animation technologies.

A conception based on the definition of possible spatial “avatars”, of processes of synthesis and reprogramming defined using complex geometries of variation and which allude to this new “multi-generative” conception (that Frédéric Mygairou would have referred to as “non-standard”)⁴ and whose practices are often determined within the realm of a possible instrumentation of flexible environments with a capacity for distortion, deformation and alteration; in a topological milieu intended to house (real or virtual) processes of interaction and (inter)change between conditions and information.

IV. Open Logic, Interactive Capacity

The new situation we have described in this text is centered on these trials and research: a more open conception of order, of form – and the associated action – with the capacity to articulate (and promote) the diversity of our times.

This brings up the need to work, today, with a new type of logic that can synthesize this transfer from stability to dynamism, from addition to combination, from to unicity to heterogeneity, which is characteristic of this search. A more “open” logic, which is no longer classical (compositional) metaphysical continuity nor modern (positional) functional objectuality, but rather contemporary (dispositional) strategic interactivity.

With the capacity to articulate and promote the diversity of our times.

Why have we linked this informational change to a possible, more “open” logic?

The term “open” effectively defines this relational potential of a new more “complex” architectural logic – defined in other areas as “advanced”, “transversal”, “reactive”, “interactive” or “informational”

- intended to promote more effective frameworks of interaction.
- It is a “logic of complexity” that, in any case, refers to a more “open” conception in that it is “not closed”, not finished, virtually “evolving” (with the potential to evolve, to change, to vary, beyond particular states of configuration, in keeping with dynamic processes, which generate development).
- A logic that is more open because it is “unfinished”, more indeterminate (or less predetermined, less prefigured, in its form and its configuration). It is neither sealed nor confined, but also not definitive (i.e., incomplete and un-concluded).
- A more open, i.e., more relational logic. More empathetic and receptive. More permeable (and sensitive) to the demands of the milieu, of the place). More cross-cutting.
- A more open logic, i.e., lively and animated. In other words, substantially dynamic. Sensitive to variations. To changes and fluctuations. To mutations. Expansive and expanded.
- A logic, in any case, that is more open because it is more flexible

(able to fluctuate, to deform, to adapt and transform, before and with the influence of information).

- A more open logic, as well, because it is more exteriorized and extroverted (able to “open” to “external” scales, conditions and/or dimensions and, at the same time, to express or exult (and also open) its own “internal” dynamics and movements.
- A more open logic that is more spontaneous and informal (in its evolutions) and, therefore, more cheerful (more relaxed and uninhibited, i.e., more expressive) in its manifestations. Less severe. Less essential and unambiguous. More impure and changeable, open to mixing, contamination and cohabitation. In other words, to exchange and interaction.

–A logic, in short, that is more complex, capable of combining and synchronizing events (complexity/simultaneity).

–A more dynamic logic, capable of making events evolve (Dynamicity/Evolutivity).

–A more diversified logic aimed at concerting plural and differential inputs (Diversity/Plurality).

–A more connective and transversal logic, capable of relating events, scales, spaces, programs, situations and trajectories (Transversality/Connectivity).

–A more mixed and impure logic, capable of hybridizing multiple events (Mixicity/Multiplicity).

–A more interactive logic, called to multiply the interchanges and the interactions between data but, also, information(s) (Interactivity/Interchange as Interaction).

–A more reactive logic, capable to engage new adaptable (and adapted) capacities in new responsive (technical and environmental) scenarios (Reactivity /Responsivity).

–A more generative logic, capable of inciting and inducing events. Ultimately, a logic that is more open, and more un-subjected (undisciplined decoded).

More self-assured and exultant. More bold and insubordinate. But also more cheerful and relaxed. More unhindered.

More colorist than austere. More eloquent than elegant.

More expressive than severe. Extroverted. Communicative.

Poised to encourage signs and expressions of the period. New formulations no longer resulting from a new absolute order, but from new contracts of resonance and transference, intended ultimately to produce effective “interfaces” between us and the world.

Dynamic “environments” – rather than inert “objects” – for scenarios that are definitively more complex and interactive.

V. Proneism

Today, we can discern a new architecture on the horizon; beyond a conventional appearance or the fixation of an object, this architecture is positively committed to the complex nature of dynamic environments and, therefore, to the inter-active and space-time definition of the processes associated with them. An architecture that is conscious of the new procedural dimension of a future time that is decidedly informational. An architecture that, nonetheless, attempts to propose things about the present.

About daily life. About its diversity and complexity.

About its possible relational “distension”.

Providing not only “freshness” – as proposed by the critic Roemer van der Toorn⁵ – to a new emergent daily life, but also “vitality” and, therefore, a new stimulating dignity to life that is less severe, more playful.

A new type of “revitalizing optimism”.

Reactive and reactivating. Positive and pro-positive.

It is a road full of traps (personal vanity, *divaesque* behavior, *vedettism*, opportunism, even cynicism or avarice) but, at present, it only seems to rely on a new type of operative intention that is more positive and optimistic, more attentive and involved.

Trusting in a committed integrity, a proactive amusement and a desire for qualitative collaboration with reality: called on to combine investigation and pragmatism; intuition and calculation; strength and effort; action and relation; as its own open (and interactive) nature demands.

A desire that demands action and a perspective that are attuned to multiple emerging phenomena and to the possible relationships between them.

An interrogative action and perspective.

With a combined drive for knowledge and proposal.

A restless desire where relational (direct and/or hybrid) strategies are more important than officiating specialties. Dispositions rather than positions. Maps rather than chronicles. Interpretations rather than panoramas. Transversal searches rather than one-way applications. (Undisciplined) alternatives rather than (disciplined) inertias. There would be no styles. No doctrines. No models. No formulas. There would be criteria for action. Criteria intended to synthesize possible combinations of hypotheses, logics and wagers.

Certain experiments undertaken in recent decades have worked within this – nearly paradoxical – need to coordinate knowledge and proposal, theoretical reflection and practical commitment, gaze and action.

The design and exploratory activity we are concerned with here moves in this ambiguous borderland between architecture and territory, construction and system, creation and logic, form and disposition, local dimension and global scale.

Between this attempt to relate diversity and the ability to articulate it in new environments (systems, logics, processes) that are more expansive and expressive, more precise and creative, more operative and – why not? – laid back.

And, in fact, we are talking about a more *inform(action)al* and extroverted architecture: a more cheerful and stimulating architecture that, as Van der Toorn himself has said:⁶

"[It] aims to coincide with reality. [...] It is a plea for acting and experiencing. [...] [A] utopian desire to connect with time and reality. [...] Intellectual pessimism would appear to have turned into its opposite – an optimism of action. Life is no longer thought of as a linear process, but as a complex totality that is full of contradictions."

VI. Id(r)realism, or Toward a New Operative Optimism

We might imagine that there is something ambiguous and uncertain in all of this, at a time when the boundaries between innovation, cynicism, progressivism, skepticism and resistance seem increasingly blurry: poorly understood from the critical perspective of a suspicious left (that has – paradoxically – found a cautious collective model in tradition), looked down upon from the neoliberal logic that sees an excessively "alternative" tone in this attitude, however this new cross-cutting, innovate and qualitative adventure – characteristic of a more interactive and informational time – is the today's greatest hope. Faced with the new cultural challenges of our hyper-present, it seems necessary to defend this disposition – both critical and committed at the same time – that has the ability not only to capture concerns about our environment, but also to set forth – and build – solutions for it. Suggesting questions, but also venturing responses.

We have often been interested in exploring this possible "experimental" nature of the contemporary spatial device or *dispositif*: that of a cultural action that maximizes its "proactive" desire, of active – and reactive – intervention in the milieu through the explicit formal manifestation of its own – and implicit – "transversal" nature.

A "projective" desire (re-informative and re-encouraging at the same time), which we have called "reactive" because of its relational scope and its active (and activating) character. Reacting to reality and activating it.

A desire that requires an action focused on re-codifying the guidelines of a certain prototypical (standardized and neo-modern) or accepted (evocative and post-modern) routine through the "assimilation/transgression" of its own operating customs. Based on possible approaches that are both qualitative and re-qualifying at the same time. As effective in their intentions as they are anti-typological in their manifestations.

Rather than a figurative (pseudo-aesthetic) vocation, what would emerge would be an un-subjected and un-prejudiced desire: that of qualitatively reorienting reality itself in order to direct its information (conditions) and potentials (latencies) directly, rapidly, instantaneously, and usefully based on synthetic (strategic) actions.

In other words, based on contextual operations of "intersection": operative and contingent, functional and conceptual, operative and narrative, strategic and poetic, at the same time.

These dynamics are interesting because, in these operations, architecture and the place it is a part of appear condensed in decisions that are strategic and tactical, expressive, technical and programmatic at once.

Indeed, in a new scenario of encounters, collisions and crossroads, perhaps the biggest paradox of culture, art and architecture might be this dual desire to "coincide" with the surrounding reality and, at the same time, to develop a "critical" (alternative) perspective in and about it: resonating and destabilizing, infiltrating and distancing, again.

The major crossroads of the contemporary project lies in this double push to "resonate" and "transcend", to "accept" and to "reject", to "collaborate" and "intrigue", to "harmonize" and to "distort", in this need to free the creative framework, on the one hand, from representative structures that are overly codified (because they are driven by inertia, cliché, by default) and, at the

same time, to connect it, on the other hand, to an operative reality that is particularly prone to what is “accepted”, what is “codified”.

How, then, do we infiltrate reality while, at the same time, qualitatively distancing ourselves from it?

Probably – as we pointed out in Chapter 12 – by acting, jointly, by collaboration and transgression, by intrusion and projections, combined “unexpectedly”.

This is the potential strength of contemporary art and architecture, and one of the major challenges: producing new formulations proposed according to a new creative attitude born without prejudices, more uninhibited, i.e., more “un-subjected”; confident in the possibility of encouraging more positive redefinitions of a reality that is open, suddenly, to the collision of forces and references, and to the diversity of relations, flows and scales and, above all, scenarios and events as essential factors with the potential to construct the development of increasingly more multi-faceted organisms, in constant entropic evolution.

It is often necessary to explain how the interest in trying to “resonate” with the current developmental processes in contemporary reality (urban, social, cultural, productive, etc.) is not the result of a mere speculative instrumentation, but rather an activist intent: that of approaching and analyzing the on-going processes in order to conceive new operative proposals with better functional and cultural effectiveness, based on qualitative and alternative parameters of organization and/or restructuring, proposed beyond traditional “forms” and “modes”, but also beyond what have come to be understood as “spatial disciplines”.

It is not based on pure opportunistic cynicism, but rather on a certain “propositional id(re)alism” – idealistic and pragmatic (realistic and pragmatic in its acceptance of reality; idealistic for its desire to provide it with a certain qualitative redefinition) – intended to move past the limits of the ambiguous “conservative progressivism” that has dominated Europe

since the late-1970s, particularly prone to taking shelter in the apparent guarantee of the establishment – experience or history as insurance, the discipline as a point of reference – as the foundation for a consensual and stabilizing order.

Whereas from a conciliatory, distant, purist or resistant perspective, reality appeared as a conflictive, bastardized and antagonistic medium against which architecture had to take on a defensive or redemptive stance, based on the new desire for “active infiltration” we have analyzed here, architecture should promote more positive and propositional relationships with the environment: “openings” instead of “defenses”, intended to “locate” society in a real universe that is mutable, changing and surprising.

It is evident, then, that in this “collaborationist and critical” desire – reconciled and distant, resonant and transferent – we see many of the elements of the “critical pragmatism” referred to by Aaron Betsky⁷ and the “pragmatopia” so aptly described by Andreas Ruby:⁸

“Situating in the no man’s land of the modernist dialectics between utopia and pragmatism, pragmatopia suggests an alternative territory of architectural operation. Thus it resists the escapism of the utopian which imprisons its vision in a no-place. At the same time it bypasses the automatism of the pragmatic with its tendency to kill the idea for the sake of sheer action. Pragmatopia instead rolls out a new plane of events in order to enable action (pragma) to take place (topos)”.

Sanford Kwinter, in an analogy that has become famous, compared the dynamic, slippery, both infiltrated and intrusive action of architecture and contemporary culture with the fluid, slippery reaction that takes place in certain sports like surfing or skiing, hang-gliding, skateboarding or snowboarding, based on the challenging of responding to fluctuating environments:⁹

“Sports that deploy the same fluid ‘streaming’ techniques combined with a rigorous ad hoc engagement of the surrounding milieu.”

Beyond the obvious cynical or “collaborationist” reading that has been used to interpret the metaphor by a certain number of critics – but also beyond the simple skill of the surfer – the most important aspect of this “*synstrategic*” – synaesthetic and strategic – desire lies in its capacity for combined intuition and innovation in order to try out new movements intended to explore conditions of action and negotiation, adaptation and fluctuation: feeling like a part of the wave not merely to sway or swing along with it, but to effectively “overcome” it, engaging in combined situations of synergy and boundaries.

And nevertheless, we would also quite agree with Alessandro Baricco in his new critical stance in the face of the exaggerated delight in the oscillation of surfaces which seems to define our times.¹⁰

Rather than the surfer who is carried on the waves, we are interested in the “incidental” image of the swimmer who enters into the waves and becomes involved with them. A swimmer who can combine crawl strokes with the butterfly and the backstroke during a single swim. Who can invert or manipulate styles and methods. Who can pass over streets and ropes. Who can use lenses and cameras. Who can “jettison dead weight” and “make an impression”. Who can move forward without failing to interact with the milieu, in the milieu: a flow within another flow, which takes it in, pushes it and re-encourages it at the same time.

If the architectural debate at the end of the 20th century tended to emphasize the independence of the discipline (reinforcing the most endogenous aspects of form), it also ended up promoting the isolation of the architectural object itself – cut off and stranded, “disciplined” for “disciplinary” – with respect to the stimuli – and demands – emerging from the physical and natural – real or virtual – environment.

13.6. Nabito, Rainbow Tower, Ljubiana. Reactive architecture in an urban environment.

On the contrary, a reactive¹¹ intent that is synergetic and “syn-strategic” – derived from a relational vocation with the milieu – would require a positive interaction in and with reality, as a product of a more “open” and “empathetic” experience. In this intrusive, and paradoxically reactivating, infiltration of the “swimmer-vector”, we find the strategic dimension of architecture as it interests us here.

The question is not to dissolve into the milieu – or to stand out against it – but rather to “pro-ject” from and with the milieu itself. The distant perspective is replaced by a propositional attitude that can even incorporate sculptural artifice (not just mechanical or organic) as a working tool.

Flexible topologies as opposed to Euclidean geometries. But also incorporations and reinterpretations on the limit between the sophisticated and the elemental, the direct and the (re)evaluated: raw materials and manipulated materials. New dynamics of “cooperation” and “synergy” (through “infiltration”, “resonance” and “interaction”) between nature, architecture, and milieu, which are not without ambiguous “ecological” nuances (merging of potentials, taking advantage of





energies, recycling resources, integrating actions) directly related to the role of architecture in our time and its new relational and connective function in scenarios that are progressively congested by the production and consumption of objects, but also distinguished by the exchange and transfer between multiple and unbiased demands.

Fusing information and codes, contingently and carefully – virtuality and materiality, nature and artifice – into new specimens where certain genes combine with other to respond effectively to local situations and global flows, expressing this “on the edge” condition, “between boundaries, places and times.”

The acceptance of the “impure” – of impurity, of what has not been refined or purified, what is unpredictable and unstable – would be one of the major victories of the new logic that we have touched on here. A logic associated with – actually or virtually – dynamic processes, i.e., evolving, open to change, to mixture and to variation.

In this acceptance of interaction and mixture, of the exchange and intersection of energies, we detect one of the fundamental keys to contemporary culture, intended to replace the old notion of an essential, compact and monolithic identity of things – and categories – with a more vague and impure quality.

More hybrid: being itself and many others at the same time. No longer a one-way, univocal arrow, but rather a sheaf that is oriented and diversified – capable of fluctuating, whirling and changing (exchanging information) without losing its specific condition: not “impositions from” or “incorporations into”, but rather “interactions between”.

The contemporary paradigm shift can be interpreted based on an ambivalent condition, intrusive and reactive at the same time, capable of processing information and re-elaborating it, entering a field of forces and influencing it, fluctuating and relaunching, resonating and transferring.

13.7. *Surfing in a datascape*. Ramon Prat: poster for a workshop directed by Winny Maas (ESARQ-UIC, Barcelona 1998).

13.8. *Swimmer in a fluid medium*: the swimmer's head pushes the liquid membrane, which covers and surrounds the infiltrated body, illustrating a process of dynamic interaction between medium and mediator.

This puts forth the need to work with a new type of operative conception that can synthesize this transfer from stability to dynamism, from addition to combination, from the unitary to the definitively heterogeneous, characteristic of our time.

VII. Environment-Architectures

The contemporary debate has settled between the small-minded defense of a resistant universe, that is still subject to fixed and stabilized parameters of order (what is “secure” as a guarantee of “order”) which are often not without a certain purist puritanism, and the desire to coincide with a reality that is permanently “open” to the intuition (and acceptance) of a complex, dynamic and informational universe – ultimately more “restless” and impure – associated with more flexible and permeable trajectories with the ability to combine variation and interaction, mixture and change, and therefore singularity and irregularity.

Our universe, our cities, our behavior, even our time, largely respond to these dynamic, non-linear processes.

The field of architecture still relies, however, on models of order based on essential, fixed, stabilizing structures. “Vigilant”, rigid, strict, or simply arrogant structures, in that they are “autistic”. However, these inertias no longer seem to effectively and flexibly respond to the fluctuation, variety and heterogeneity of the events that define our reality.

Its high degree of synchronicity and diatonicity.

Current research aims to take on the possibility of conceiving new logics, new structures and organizations with the ability to better resonate with the evolving potential of information, to better articulate diversity and to “orient” uncertainty, to blend heterogeneity and to celebrate complexity; founded on a strange paradoxical condition, half way between determination and indetermination, between order and change, action and reaction, contract and indiscipline, systematicity and contingency; rigor and fantasy.

Between collaboration and transgression, as well.

This need to promote a transversal interaction, in every sense, explains the interest to move beyond the limits of architecture understood only as objectual design, and to refer instead to architecture conceived as a “relational environment”.

An architecture that can propose the materialization of processes rather than the definition and delimitation of events.

That can operate, therefore, with flexible geometries and organizations, which are more like differential orders rather than absolute orders. Elastic and adaptable topologies rather than rigid and universal grids. Dispositional logics, rather than compositional models.

An architecture that can design its own movements, in expressing them, in addition to the varying demands that call for it and configure it. Capable of working beyond boundaries and beyond traditional dichotomies.

With the context and beyond the context.

With the place and the city. With the city and the geography.

With nature and technology. With concepts rather than ideas.

With strategies rather than planning.

With systems rather than imagination.

With trajectories (and environments) rather than objects.

With fabrications rather than constructions.

With synthetic recordings rather than analytical outlines.

With dispositions – and *dispositifs* – rather than designs.

With evolutionary processes rather than contingent events.

The design and exploratory activity we are concerned with here moves in this ambiguous borderland between architecture and territory, construction and system, creation and logic, form and disposition, local dimension and global scale. Between this attempt to relate diversity and the ability to articulate it in new environments (systems, logics, processes) that are more expansive and expressive, more precise and creative, more operative and – why not? – laid back.

And this more open conception (for non-predetermined, for more

direct, spontaneous and plural; for more relational and evolving, but also for more playful, lively and uninhibited) of an architectural action that can come to terms with the complexity of our times, is what a certain number of us would like to contribute, by encouraging the definition of a new scenario for interaction.

A large number of the disciplinary adventures in recent years have expressed this desire to reach new – singular and plural – operative formulations, in new environments and new spatialities; apart from the old morphological or typological obligations.

This is the true cultural dimension of contemporary design: its capacity to formulate – consciously or unconsciously – new and surprising formulations.

Trajectories with the potential to express complex developments emerging from overlapping information, but also capable of articulating the appearance of unexpected – “rebellious” – expressions. Adapted to contingent situations of reality (with a heightened ability to encourage a qualitative pact between the factors that determine it) and, at the same time, intended to break with their own – by default – attributes.

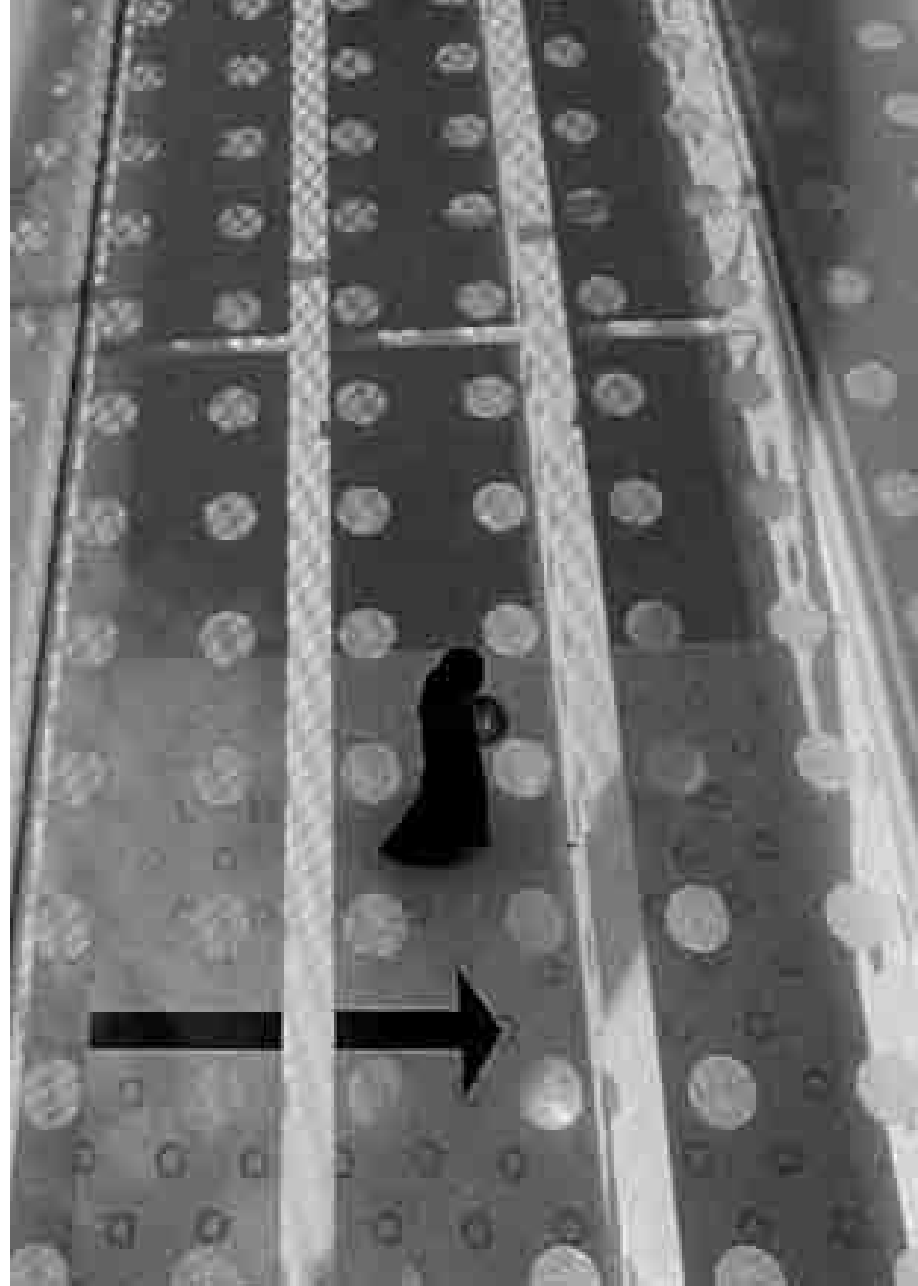
Formulations of possible “otherness”.

Trajectories generated within the “system” and “beyond” it.

Trajectories in which authenticity does not stem from some kind of essentialist foundation, but rather from this open process of plural – informational – exchanges and interactions called on to generate not just unexpected forms in space, but rather relations within space.

Processes rather than events. Environments rather than objects. No aesthetic images, but rather new and unexpected “trajectories” in the system.

Trajectories of change – and potential paradox – which, as a final decalogue – we will present in the following pages.¹²



1– See GAUSA, Manuel: *Operative Optimism*, ed. Actar, Barcelona 2005.

2– GUIHEUX, Alain: "Action," in V.V.A.A.: *The Metapolis Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2003.

3– The term was coined by Frédéric Migayrou. The initial idea of dedicating two large exhibitions to the concepts of "Non-standard" and "Des-standard" has only been realized up to now in the first notion (Centre George Pompidou, 2003).

4– Migayrou delved into the key notions of a production that is differential and systematic and the same time in his concept of "non-standard" (Centre Georges Pompidou, 2003).

5– This architecture and art aims to coincide with reality. [...] It is a plea for acting and experiencing. It is inspired by a utopian desire to connect with time and reality, both being understood as fragmented. [...] Increasingly art and architecture are breaking free of representation as generated and maintained by the system. Priority is given instead to real presence. [...] It is no surprise then that the phrase "relational work" is on everyone's lips. [...] The new work of art is "relational"; its content is the interhuman experiences that it generates; every visitor becomes a spectator, discussion partner or next-door-neighbor." See Van der TOORN, Roemer: "Fresh Conservatism," *Quaderns* no. 219 (Reactive Architecture) 1998, p. 95.

6– Ibid.

7– "Critical pragmatism is a phrase used to describe a movement [...] in which the architect becomes a surfer on the tides of modern economic and social systems. She or he must try to maintain a balance, catch the latest waves of fashion and open a space in which a human being can live in the sea of commercially produced structures that makes up our modern landscape."

See BETSKY, Aaron: "Critical Pragmatism," in V.V.A.A.: *The Metapolis Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2003.

8– See RUBY, Andreas: "Pragmatopia," in V.V.A.A.: *The Metapolis Dictionary of Advanced Architecture*, ed. Actar, Barcelona 2003.

9– See KWINTER, Sanford: *Architectures of Time: Toward a Theory of the Event in Modernist Culture*. MIT Press, Cambridge MA 2002.

10– "To relate with the world, we have to delve into it: today we just surf through it. [...] The words we use are very telling: 'search' comes from the Latin *circare*: 'to go around' an issue until you find the way out, the answer, the solution. [...] Nobody searches in life or in science now; they just surf through the experience of reality. Our way of understanding has changed: today wisdom means travelling across the surface of issues without getting tired, skillfully, surfing like on the Internet, moving along the surface of knowledge and of life, switching from one issue to another, but without and need or desire to delve deeper. For thinkers of my generation, surfing would be the height of stupidity; but today its the highest form of wisdom." BARICCO, Alessandro, interview with AMIGUET, Lluís, "La Contra," *La Vanguardia*, May 10, 2008.

11– As mentioned in Chapter 1, we use the word "reactive" here in the same terms in which it appears in issue number 219 of the magazine *Quaderns*. See also "Reactive architecture: proneist frame," in *Quaderns* no. 219 (Reactive Architecture) 1998, p. 5.

12– In complement, see also: GAUSA, Manuel: "Otro logos, otro locus," in CORTES, José Miguel: *En cualquier lugar, en ningún lugar*, ed. Centre d'art la panera, Fundación MARCO 2008.

OPEN LOGIC, INFORMATIONAL LOGIC, ADVANCED THINKING FRAMEWORK CONDITIONS

7 PARAMETERS TO CHANGE PARADIGM:

- Complexity (Simultaneity)
- Dynamicity (Evolutivity)
- Diversity (Plurality - Combinatoriality)
- Transversality (Connectivity)
- Mixi(ci)ty* (Multiplicity)
- Interactivity (Interchange as Interaction)
- Reactivity (Responsivity and/or adaptability)

OPEN LOGIC DISORDERED ORDED (IRREGULAR RELATIONAL) INFORM(ATION)AL FORM (TRANSFERENT / EXTRAVERTED)

13.10. Computational flow diagram (Stan ALLEN: *Points + Lines: Diagrams and Projects for the City*, ed. Princeton Architectural Press, New York 1999).

14 MANIFESTO: FINAL DECALOGUE

21 operative paradoxes

1– Here, we talk about an architecture – and a new type of logic associated with it – engaged with an *informational* reality, multiple and multiplying, diverse, simultaneous and interactive, and as such, paradoxical: virtual and real, infrastructural and episodic, generic and contingent, recursive and differential...

A complex reality whose most faithful record is its own compressive abstraction.

Not a purifying abstraction, but rather a condensing abstraction. Capable of compressing basic information from the system and processing it, combinatorially and qualitatively, at the same time.

2– An architecture whose compressive ability lies, precisely, in its own capacity for synthesis. That of formulating possible dynamic and evolving developments in trajectories – or nuclear criteria – of synthesis: “maps” or “diagrams” of action.

3– An architecture that refers back to a new type of more open logic, association with an (*undisciplined*) order and an (*informal*) form whose most precise geometry is, precisely, that which is most irregular.

An architecture made of multiple variations associated with flexible structures, with the ability to combine basic geometries (line, point and surface) in topological movements of folding, unfolding and refolding.

4– An architecture where composition or position are less able than disposition.

Where the transfer from the classical idea of “composition” (as a static regulation) to the modern concept of position (as an objectual correlation) gives way to the idea of “disposition” (as a dynamic configuration).

A generic and contingent open trajectory; strategic decision, tactical instruction, but also specific combination.

An operative system intended to process multiple and decidedly interactive information.

5– An architecture that is no longer solely productive (functional and material) nor reproductive (evocative and symbolic), but rather co-productive (decidedly interactive, for relational).

6– An architecture in which disorder indicates another kind of order. Where order is not control (but rather relational ability).

An order that is not (stable) “law”, but (temporary) agency; connective relation and organizational contract.

A dynamic (unbalanced) and informal (without form or codification) order; more flexible for more direct and relational.

7– An architecture that emerges as dynamic even when it is static.

It cannot continue to foster pure, indifferent objects against an absent background, but rather catalyzed energies.

“Fields” – and “trajectories” – rather than figures – or “prisms”.

8– An architecture where a form aims to be many forms. Where form can be “case” and “class” at the same time.

An architecture where the final definition appears as a snapshot in a more or less systematic and uninterrupted process.

But also as the materialization of a new combinatory, atypological logic, with an open configuration, which can accept the overlapping and cohabitation of different genetic codes as a stimulating value: an “anti-composition” or a heterogeneous disposition, resulting from informational developments in interactive coparticipation.

9– An architecture that would rather create landscapes under the sky than volumes under the light.

Landscapes not as a “background” for action (its residue), but as its main “topological” cause.

Landscapes where use and absence, intervention and void can be combines. An architecture where the roof of a building can also be its main ground.

10– An architecture where voids unite instead of separating. Where voids are full.

An architecture that can highlight the strength of negative space as a structuring mechanism, with the potential to articulate possible tactical variations – intermittencies – in the organization of space.

11– An architecture of discontinuous relations, where “farther away” could actually mean “closer”. Where relationships of proximity do not depend on (literal) distances, but rather on degrees of (virtual) connection.

An architecture that pays special attention to the “infrastructural” sphere. Like a “network” – or “grid” – for relating, rather than for continuity.

12– An architecture where “rigor” means “informality”.

An architecture that is open to a more “informal” conception of the idea of structure, where the old rigidized elements are replaced by new “heterodox” ideas of support. Where isotropy makes way for heterogeneity. Gravitational is replaced by netting combinational. Totalizing makes way for differential. Euclidean becomes fractal.

13– An architecture of ambiguous spaces, where “above” could also be “below” and “inside” could also be “outside”.

An architecture where the floors of a building are not merely meant to be strictly separated stacked trays (piled plates), but rather interconnected, overlapping and fluctuating spaces, that intersect freely (like a virtual Moebius strip) in keeping with the direct needs of the program.

14– An architecture where higher quality would often be more economic.

Not as a restrictive filtration, but as a compression/comprehension of information.

An architecture that aims to be more cost-effective precisely because it has an influence on systematicity.

A more direct architecture that promotes the investigation and production of processes that are more productive because they are more operative. Which prefers multiplicity and combinatoriality to precision and addition.

15–An architecture designed to help often the real evolve in –and from– the virtual.

An architecture that aims to take maximum advantage of new tools, using them not only as “transmitters” but also as “agents” engaged in the design of form.

An architecture that pushes that capacities of informational tools through the conception of simulations and avatars: animated processes. New territories open to a new genetics of form, in its most digital dimension.

Even encouraging spaces with uses, but which have no associated physical space.

16– An architecture where occupation does not imply permanence: where construction does not always imply building.

An architecture that establishes a positive relationship with the milieu; which brings up new flexible – less proprietary – contracts with the environment. But that also pays special attention to a new type of ecology. A bold ecology, where being more natural also implies being more artificial.

17– An architecture intended to convert buildings into new “interfaces” between the individual and his environment.

Where façades are not meant to be neutral elevations, but rather sensitive membranes. Technical skins, which are eloquent and communicative, rather than walls full of holes.

Skins that are colonized by functional elements, able to accommodate facilities and services; but also capable of housing mediating incorporations: stains, eruptions, graphics, manipulations; colorist motifs and fantasies, and the façade, like a “screen”, is the space of friction between the building and a context that changes over time.

18– A “spontaneous” and “strategic” architecture, “fresh and clever” at once.

It rejects both the exquisite quality of a dandy and the purity of dogmatism, both resistant puritanism and erudite refuge.

It prefers the direct frankness of shared communication, the stimulating and explicit character of advertising language, the expressive fantasy of cinema, or the “honesty” and narrative rhythm of contemporary media.

19– An architecture where the truly effective “yesterday” would be a “today” (pulled backward).

History as a linear trajectory of events and references makes way for a "landscape of data, offers and possibilities", demystified and able to be instrumented, with changing angles, unexpected twirls, tactical appropriations and opportunistic interpretations.

Deliberate expressions of a desire that relies on innovation.

An uninhibited and somewhat iconoclastic architecture.

Which would show a certain fondness for its grandparents – for their pioneering idealism, but would be suspicious of its fathers – for their "protective" mission – and which would distance itself from its older brothers for their excessive "obedience".

20– An architecture that does not attempt to reproduce the past with nostalgia. Nor does it aim to impose a new absolute, totalizing order. It does not hope to be a hut, or a machine, but rather an interactive environment. A reactivation.

In an exciting and strange reality, precisely for the acceptance of its fractured, weak, handicapped nature, it does not aim to be a replicated limb or an implanted hook, but rather a beautiful contemporary prosthesis – connected, functional and (re)active.

A new synergetic graft – and "interface" between individual and world – which, without giving up its formal independence (its artificiality) can nonetheless be understood as a complicit "dispositif" – unique, specific, non-transferrable – in order to improve the functions of – and in – the host medium. Redefining it and reinforcing it at the same time.

21– An architecture, ultimately, that is new and catalytic for the forms, structures, spaces and solutions it proposes, but also for the attitudes, sensibilities and narratives it stimulates.

These are the terms we use to refer to this possible "reactivating" aim of the new architectural action: an action that is no longer "resistant" (skeptical, defensive or questioning), but rather re-codifying because it decodes (or un-codes).

That is to say, it reformulates, on the one hand, inertias and pre-established conditions, old accepted codes (un-coding); but it also translates phenomena – new conditions and coding – which are emergent and global (de-coding).

An action that, here too, is both relational and operative at the same time. That of an architecture that is still young in its development and its definitions, which are still incipient.

In his book *Delirious in New York*¹ Rem Koolhaas reminds us how his text was built around a paradox underlying the modern debate in the 1930s on both sides of the Atlantic; while in Europe, they were producing manifestos without realities, in America they were building realities without manifestos.

Today, it is time to generate realities like manifestos.

That is the question, in effect.

And this more open conception (for non-predetermined, for more spontaneous and plural; for more relational and evolving, but also for more playful and uninhibited) of an architectural action that can come to terms with the paradoxical complexity of our times, is what this book hopes to contribute to, by encouraging the definition of a new (real and virtual) scenario directed, ultimately, toward a new exploration of the understanding of our habitat, as a collective and individual space at the same time.

Based on the generation of "environments for interacting (in) rather than machines for living (in)."

Environments that are not only dignified, but stimulating, active, changing, flexible; surprising and expressive.

Environments associated with a more "hybrid" and relational architecture, natural and artificial, conceptual and information, determined to interact with the world by making use of its paradoxical condition, sensitive to the milieu and responsive to innovation.

Open to the resolute (strategic and plastic, operative and expressive) use of color, light, sound, movement and the energy of technology (not as a cold material but as a sensitive material); with a reactivation of the senses.

– An architecture for the pleasure and the joy of living and relating, of qualitatively "projecting" the individual beyond the habitual purist cultured minimalism or the profitable commercial archetype; beyond mere resistant moralism or pure standard convention.

– That reflects on how we understand architecture and how we understand culture and society.

Something that is important in the present day...

In some countries, this aspiration are beginning to bear some of its best fruit. In others, we hope, It may soon begin to.

1– KOOLHAAS, Rem: *Delirious in New York*, ed. 010 Publishers, Rotterdam 1996.

SUMMARY TABLE

OPEN LOGIC, INFORMATIONAL LOGIC SPACE-TIME-INFORMATION COMPOSITION > POSITION > DISPOSITION

A–Open logic: notions, conditions, parameters

<u>Associated notions</u>	<u>Associated conditions</u>	<u>Associated parameters</u>
Synchrony	Complexity (Simultaneity)	Multi-layering capacity
Process	Dynamicity (Evolutivity-Variability)	Changing capacity
Variation and variety	Diversity (Plurality)	Differential capacity
Linking	Transversality (Connectivity)	Transferring capacity
Cross-breeding	Mixicity (Multiplicity)	Combinatorial capacity
Intersection	Interactivity (Interchange)	Relational capacity
Adaptation	Reactivity (Responsivity)	Capacity for answer

> Open logic, “disordered” (irregular) order

> Open logic, “informal” (extraverted) form

B– Challenges

1. EXPLORING COMPLEXITY (Simultaneity). Synchronic Capacities (logics)
2. EXPLORING DYNAMICITY (Evolutivity & Variability). Changing Capacities (logics)
3. EXPLORING DIVERSITY (Plurality / Irregularity). Differential Capacities (logics)
4. EXPLORING TRANSVERSALITY (Connectivity). Communicating and Transfer Capacities (logics)
5. EXPLORING MIXICITY (multiplicity). Combinatorial capacities (logics)
6. EXPLORING INTERACTIVITY (Exchange- Interchange). Relational Capacities (logics)
7. EXPLORING REACTIVITY (Responsivity). (Adapted) answering capacities (logics)

And therefore

8. EXPLORING FLEXIBILITY (Versatility & Tolerance). Adaptive Capacities (logics)
8. EXPLORING INTEGRATIVITY (integration & Oriented Concertation). Strategic Capacities (logics)
9. EXPLORING A NEW OPERATIVITY Unprejudiced (Disposition) Reactive Capacities (logics)
10. EXPLORING A NEW SENSIBILITY Proactivity (Sustainability) Mediating Capacities (logics)

C– Changes (in):

Perception	>	Outlook / Survey
Representation	>	Recording / Mapping
Territorialization	>	Process / Construction (of environment)
Organization	>	System / Structure
Instruction	>	Dispositif / Construction (of space)
Formulation	>	Order / Form
Conceptualization	>	Concept / Code
Intention	>	Attitude / Methodology

D– Transfers

MAPPING (ch. 1,2 and 4)	
Reproductive	Exploration of the unified body
Productive	Exploration of fragmentation
Co-productive	Exploration of the capacity for interconnection
CITY (ch. 3)	
Classic	An ideal place
Modern	“Other” alternative place
Advanced	A dynamic and complex “multi-place”
ORDER (ch. 5 and 6)	
Classic	Space and Time
Modern	Space-Time
Advanced	Space-Time-Information
FORM (ch. 5 and 6)	
Classic	Composition
Modern	Position
Advanced	Disposition
PROJECT: DISPOSITIVE APPROACHES (ch. 7, 8, 9 and 10)	
Approaches to the components of the multi-city (n-City)	
Growths	Exploration of section
Meshes	Exploration of the fabric
Topographies	Exploration of the void
PLACE: IMPLANTS AND IMPLEMENTATIONS (ch. 11 and 12)	
Classic	Formal supplements
Modern	Functional mechanisms
Advanced	Interactive interfaces Reactive

FRAMEWORK 2: METAURBAN CHAINS RECURSIVE SYNTHETIC TAXONOMIES

CONFIGURATIONS AND MOVEMENTS Generic abstractions Points (volumes) Surfaces Lines	METROPOLITAN TRAJECTORIES Descriptors Buildings Landscapes Infrastructures
IRREGULAR (SPATIAL AND URBAN) STRUCTURES Physical framework One Full / Fullness Spaces Zero Void / Emptiness Interspaces Pattern Link / Linkedness Trans-spaces	METAPOLITAN TRAJECTORIES Keys Dense spaces / Agglomerations Open spaces / Interstices Support spaces / Arteries /
SPACE-TIME PROCESSES Generic movements Attractions Rejections Fluctuations	MULTI-URBAN STRUCTURES Virtual model (Metapolis) Layers Backgrounds /Fading Networks
SPATIAL DISTRIBUTIONS Keys Positioning Distancing Displacing (displacements as interstitial itineraries)	DESCRIPTIVE OPEN DISPOSITIFS GROWTHS – REGROWTHS Local accumulators Shoots and grafts MESHES – MESHWORKS Weaving circuits Knits and Knots TOPOGRAPHIES – TOPOMETRIES Operative landscapes Ground and Reliefs
SPACE-TIME PROCESSES Basic patterns Concentrations (densifying processes) / masses Dilatations (sponging processes) / gaps Interconnections (furrowing processes) / paths (as flow channels)	
SPONTANEOUS OCCUPATIONS AND SETTLEMENTS Keys Occupations (grouping) Separations (spacing) Articulations (accessing)	OPEN DISPOSITIFS / STRATEGIES Keys Movements of Concentration Unfolding Geology Connection Refolding Geometry Compression Folding Geography

FRAMEWORK 2: METAURBAN CHAINS RECURSIVE SYNTHETIC TAXONOMIES

FRAMEWORK 1

OPEN LOGIC, INFORMATIONAL LOGIC

SCENARIO

ORDERS (ORGANIZATIONS)

<IN> Factors

FORMS (FORMULATIONS)

<EX> Factors

SCENARIOS Milieu Conditions (M.C.)	ORDERS <IN> Factors	DISPOSITIONS/DISTRIBUTIONS Recurring parameters R.P.	FORMS Character	FORMULATIONS <EX> Factores	
1. HETEROGENEITY (synchrony)	INDETERMINATION (imbalance)	COMPLEXITY (simultaneity)	NERVOUS (agitated)	>	EXCITED (Excitement)
2. DYNAMICITY/DINAMISM (variation)	INSTABILITY (impermanence / inconstancy)	EVOLUTIVITY (development and growth)	RESTLESS (animated)	>	EXPECTANT (Expectation)
3. DISPERSION (diffusion)	INCOMPLETENESS (infinitude)	MUTABILITY (expanding change)	DISSIPATED (impulsive)	>	EXPANSIVE (Expansion)
4. DIVERSITY (cohabitation)	INDIVIDUALITY (in collectivity) (intermission)	PLURALITY (combinatoriality)	PLURAL (differential)	>	EXTRUSIVE (Extrusion)
5. FRACTALITY (diachronicity / spacing)	INTERMITTENCE (intercadence)	DISCONTINUITY-DISJUNCTIVENESS (iterations of "empty/full")	LOOSE (permeable)	>	EXCEPTIVE (Exception)
6. CONNECTIVITY (relation / articulation)	INTERCONNECTION (infrastructurality / immanence)	TRANSVERSALITY (matrix interweaving)	TRANSFERENT (connective)	>	EXPEDITIVE (Expediency)
7 CROSS-BREEDING (coexistence / mixture)	IMPURITY (inmension)	MIXICITY /MIXTURE (Multiplicity and/or hybridism)	AMBIVALENT (impure/tolerant)	>	EXTRINSIC (Externality)
8. INTER-ACTION (exchange)	INVOLVEMENT (implication)	INTERACTIVITY (inter-change)	RELATIONAL (synergic)	>	EXPANDED) (Excepanion)
9. REACTIVITY (adaptability,opportunity – rather than – opportunism)	INMEDIACY (immediacy/independence)	RESPONSIVITY (flexible elasticity and/or deformability)	PROCESS-ADAPTED (adaptable/adaptative)	>	EXTENDED (Extension)
10. ARTIFICIALITY (not artifice) (decoding)	INDISCIPLINE (unpredictability)	IRREGULARITY (singularity)	FREE (un-subjected/un-embarrassed)	>	EX-CENTRIC (Eccentricity)
OPEN / REACTIVE LOGIC FRAMEWORK CONDITIONS (F.C.) (SIMULTANEITY AND PARADOX) HETERODOX SCENARIOS ("in suspense")	<IN> FACTORS DISORDERED ORDER (IRREGULAR)	R.P. PARAMETERS OF DISTRIBUTION FLEXIBLE GEOMETRY (TOPOLOGY)	MEDIATING (empathetic)	>	EXTERIORIZED (Exteriority)
			DIRECT	>	EXPLICITED (Explicitness)
				>	EXTRAVERTED (Extraversion)

POSTFACE

This book, *Open(ing)* is the synthesis of another synthesis (*Open, Espacio-Tiempo-Información*), a summary, again, of the PhD dissertation *Open-Lógica abierta* intended to compile insights and research developed during 10 years of editorial activity at the head of the magazine *Quaderns d'Arquitectura i Urbanisme*: a period characterized by inquisitiveness, doubts, enthusiasm, interests and fascinations in what was intuited at the time – the late 1990s – as the beginning of a paradigm shift in architectural thought and practice.

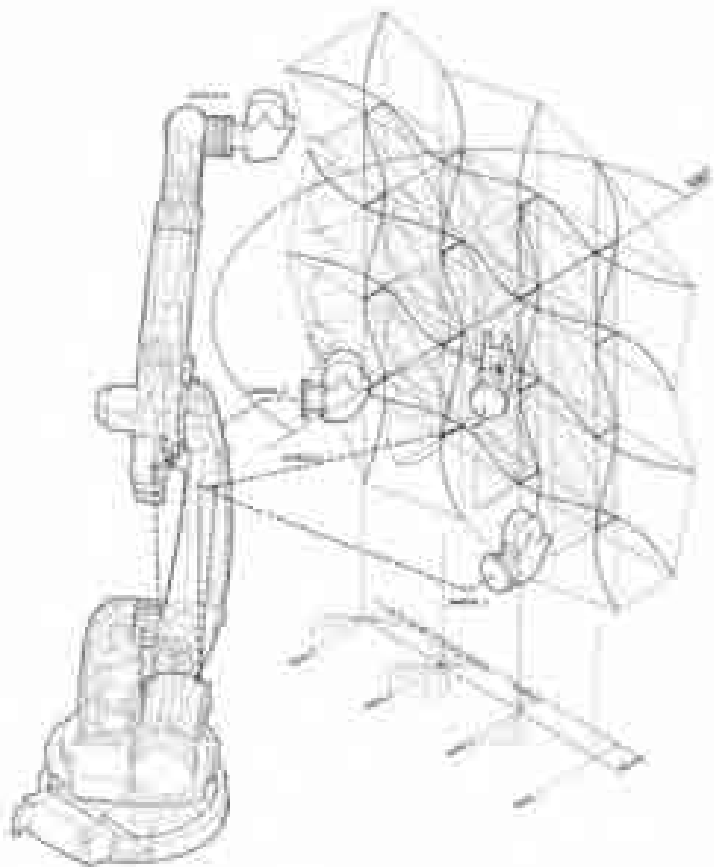
That research was never meant to dogmatize movements or tendencies (something that is clearly important, however), but rather to map a new territory for shared exploration, based on the complexity of the emerging scenarios for investigation and exchange.

Obviously, 20 years have gone by between the initial intuitions that fueled the first research and the appearance of this book, and there have been many transformations and evolutions in the development of this new “informational logic” associated with new digital technologies (which was a more alternative option then and has become widely accepted in the discipline). Information theory – data and bits, but also demands, stimuli and messages – computational development and procedural *parametrization*, advances in networked communication, along with digital conception and fabrication are transforming social, productive and cultural relationships, along with the associated spatial conceptions and approaches, in architecture and urbanism.

When, three decades later, in the throes of the eclectic, calligraphic and neo-historicist postmodern euphoria, certain pioneering experiments suggested the emergence of a new transition period oriented toward a new shared cultural, creative, and scientific adventure – these rechearches tended to concentrate their attention around the leap of scale of the city, as a complex space-time system -its multi-layered readings and its progressively dynamic and procedural condition – that research tended to focus on a scalar leap for the city and its progressively dynamic and procedural condition, centering preferable on the exploration of a new type of “order”, “geometry”, “organization” – and a “(re)formulative strategy” – tied in with a more irregular, more informal and un-subjected, conception and expression of architectural design, attuned to – urban and social – scenarios that were increasingly “open”.

This epitomic play between architecture and the city – habitual, on the other hand, during moments of cultural transformation, from Alberti to Le Corbusier, but laid out according to a new set of rules – was the focus of the initial approaches: recursive trajectories and iconographies, characteristic of a new, more complex and “wrinkled” architectural logic – in the words of Federico Soriano – which aimed, even then, under an “advanced” formulation, to play a similar role in the information society as modern architecture played in the industrial society. And which ultimately articulates the design experiences from that pioneering context that appear in this book.

We should note that is recursive reliance on the urban scale and in the “para-urban” configuration is no longer necessary today. During the defense of dissertation *Open-Lógica Abierta*, Federico Soriano, who was a member of the committee, thoughtfully pointed out how in a few short years, this “projection” between new architecture and new city had been substituted by a more direct use of information processing, freed from any prior “narration” or reminiscence: an exclusively and explicitly operative formulation, made from combinations of purposefully processed parameters and information.



The emergence of the digital and informational universe, of the network exchange, the multilayer readings, the parametric design and the personal programming and differential manufacture (DIY) and the development of the environmental sensorisation and the on-line and real-time applications, are coincident with the match emergence of new generations that are more familiarized with these premises and don't require longer transition scenarios to conceive new spatial formulations with all roundness and naturalness.

Digital Tectonics/Fabrication Ecologies Studio. Stigmergic Fibers, MAA1- 2012/13 by Jin Shihui, Jean Akanish, Ali Yerdal and Alexander Dolan.

It is true that, even today, we are faced with particularly conservative, cultural, academic and productive environments that associate operativity with predetermined "predictability", where rationalism takes precedence over rationality, pragmatism over practicality. Evocativeness over expressivity. Real-estate developments, public programs, commercial typologies still rely on the apparent guarantee of predictable architecture associated with "neo-modern standards" and "neo-analogical commonplaces".

For that very reason, the initial ending of this book presented two lines of action that can still be seen in many of the experiments taking place today.

–A more "genetic-experimental" or "kinetic-productive" line of action, interested in the capacity to propose a new dynamic and procedural generation of architectural form and formulations, based on new technological, scientific, procedural and material foundations (parametrization, data reading, algorithmic combination, flow analysis, topological expression, numerical combination, etc.) translated into the field of the city in a new *urbaneutics* or *urbakinetics*.

–Another more "tactical-practical" – or more "strategic-operative" – line of action, interested in the capacity for manipulating the "codes" of the habitual system – its standards – in order to disrupt it, taking up its own semantic and productive parameters based on more conceptual and purposeful, more plastic and semiotic, foundations (compositional games, formal expressivity, typological manipulation, expressive-plastic combination, driving lines of force, pattern harnessing, formal structuring); a line of action that is translated into the field of the city in urban prospecting and a new relational understanding of landscape. Both of these lines of action still coexist today in the ongoing construction of this new thought. However, it seems clear that, soon enough, their fusion and integration into a more spontaneous operative logic, uninhibited by any predetermination, should be the natural future (the logical evolution) of the technological, cultural and formal developments that are currently underway.

The foundation of the laaC (Institute for Advanced Architecture of Catalonia) in 2000 by a group of Barcelona architects with a cosmopolitan vocation – and vision – as a large-scale research laboratory for architecture and urbanism, largely coincided with many of these concerns.

In its 15 years of existence, the laaC has witnessed the emergence, evolution and experimentation of these approaches, questions, debates and concerns, similarly to other centers and spaces associated with the field of advanced creative and scientific investigation (the AA and the Bartlett in London, SCI-ARC in Los Angeles, Columbia University in New York, Media Lab in Boston, the Berlage Institut in Rotterdam, CITA in Copenhagen, etc.).

In all of them, the impact of new digital technologies combined with a new, more sensitive and interactive intelligence (with the milieu, the environment, the city and with citizens) tended to favor the emergence of a new kind of multi-relational *spatialities*, which are both more complex and more precise and imaginative at the same time.

Their generation is the result of new information processes, but also new conceptual procedures in which formal prefiguration is replaced by relational, strategic and intentional configuration (criteria as opposed to models).

It is true that this shift has needed – and still needs – the investigation of new instruments, as well as new concepts and new “mental maps”; of new structures and systems – organizational, material and constructive; of new programs, new strategies and new processes.

Of new mediations and new metabolisms.

Of new attitudes and new cultural frameworks.

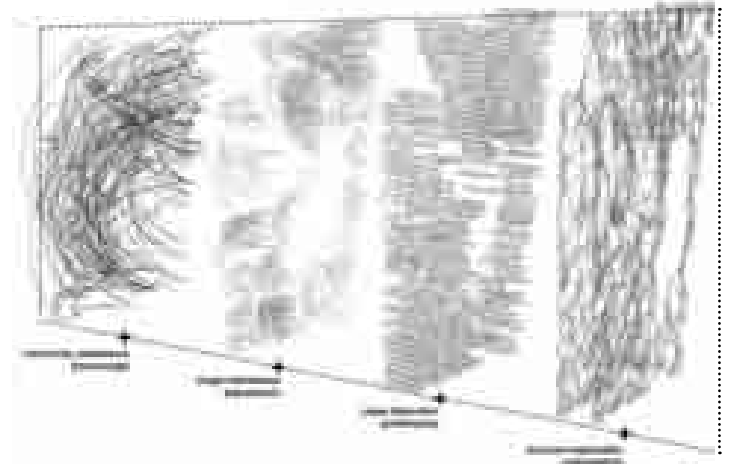
And of new – critical and propositional – stories and narratives.

The emergence of the digital and informational universe, networked exchanges, multi-layered readings, parametric conception, personal programming, differential fabrication (DIY), environmental sensorization, and on-line applications, has coincided with the blossoming of new generations of players who are more familiar with these principles, and who no longer

need transition scenarios or referential excuses (spaces and times of *transfer*) in order not only to describe, explain, claim or demonstrate a new spatial formulations, but simply to test it and design it – materialize it – with utter conviction and naturalness. We are moving toward all of this at an advanced, if not break-neck speed.

From dynamics that appeal to a new intelligent (reactive or responsive) dimension of the city and its interactive and informational approach (handling data that affect urban mobility itself, energy efficiency, social economy, active public space, self-organization and environmental response and self-sufficiency, etc.).

Toward the generalized interaction between the culture of a new digital, informational and differential society and its translation into a new type of spaces that are programmed, processed and generated in an explicit and decidedly computational manner.



Interference and interaction sequences between evolutionary patterns.

Intensive Agricultural Incubator, Kolkata Slums (laaC Research-MAA1: Students: Bernardo Matalucci / Faculty: Jorge Godoy Roman, Izaskun Chinchilla, Master of Advanced Architecture 2006-2007, Dir. Vicente Gualart).

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