

Part 4

DEVICES (*DISPOSITIFS*)

System, Strategy, Project

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Inductors and Transfers: Scalar Leaps
- 8 **GROWTHS (UNFOLDS)**
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"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.).

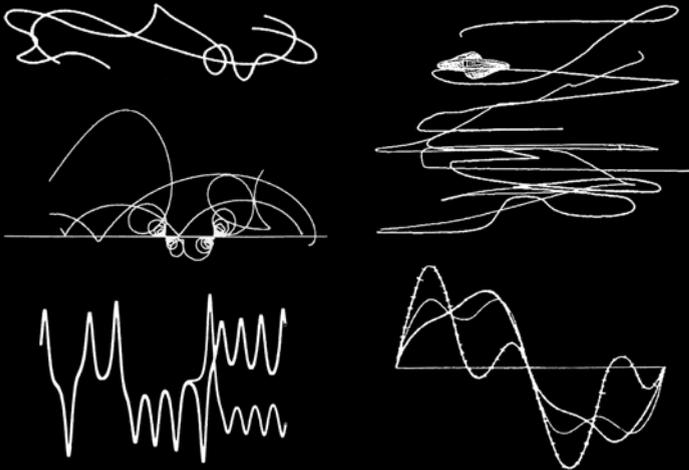
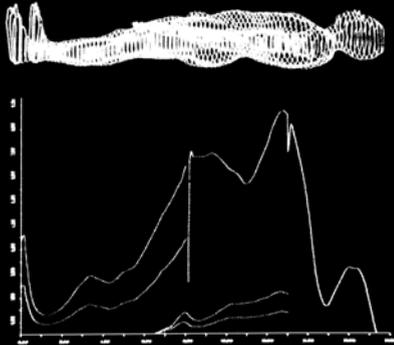
A multiple and dynamic – global and local – state of definition that permanently overcomes the univocal affiliation of processes with antique figurative, stable and/or essential models. Its comprehension – and compression – can only be proposed based on this condition of "multi-dimensional" simultaneity 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.

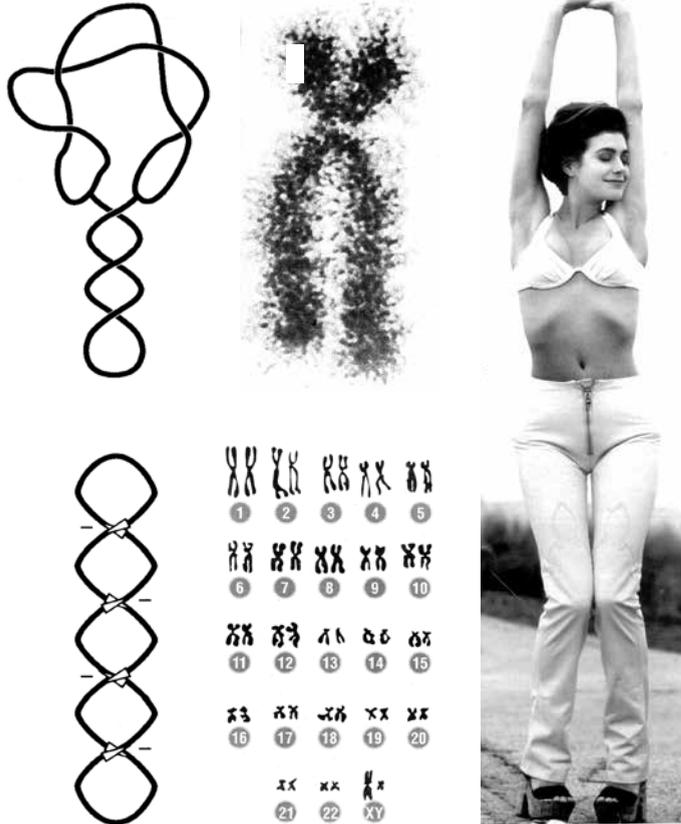
In this sense, it is worth emphasizing the diagram's capacity for synthesis as a virtual "map" or synthetic "cartography", which condensed conditions, requests and movements. In effect, the diagram is the graphic representation of the "progress" of a "process in progress" recorded using "compression", "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. [...]"

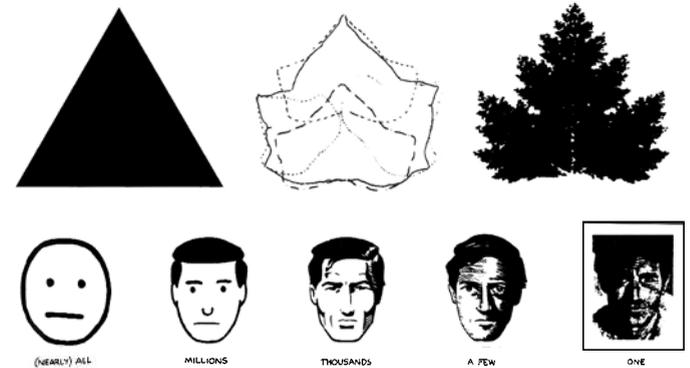
Unlike classical theories based on imitation, diagrams do not map or represent already existing objects or systems but anticipate new organizations and specify yet to be realized relationships. [...] [Their]



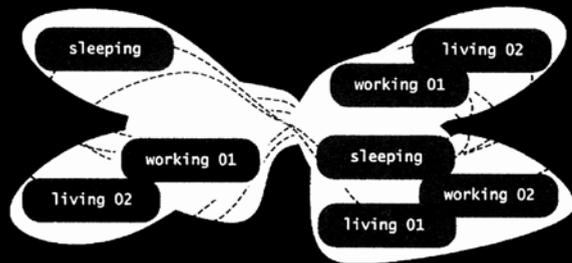
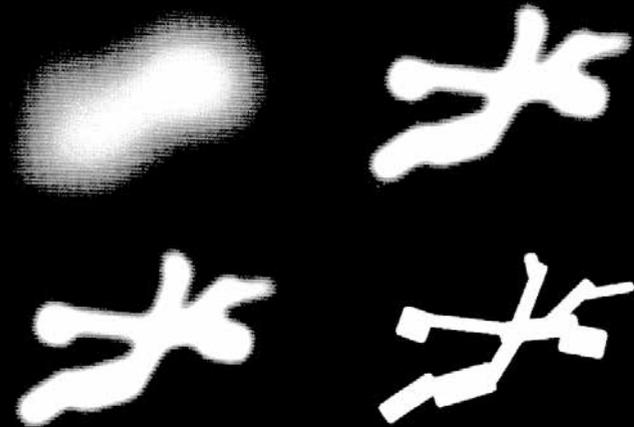
The idea of a seed – frequent in the analysis of evolving structures – alludes to the possible existence of nuclear information with the potential to evolve through recursive processes of growth, replication, change and variation. 7.9., 7.10., 7.11. and 7.12. It is worth comparing the diagram of the 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).



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.

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.

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

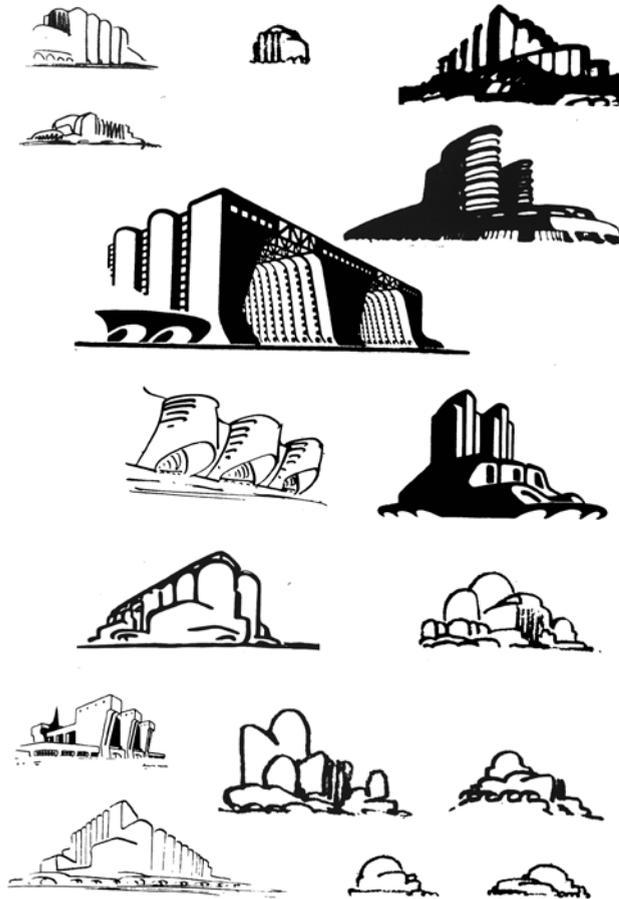
In this respect, diagram and ideogram possess a structural effect in and of themselves, since they allow for synthesizing an amalgam of information associated with a “field of potentials” generated between times and scales and narrated, expressed or communicated at the same time as the criteria for action 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).

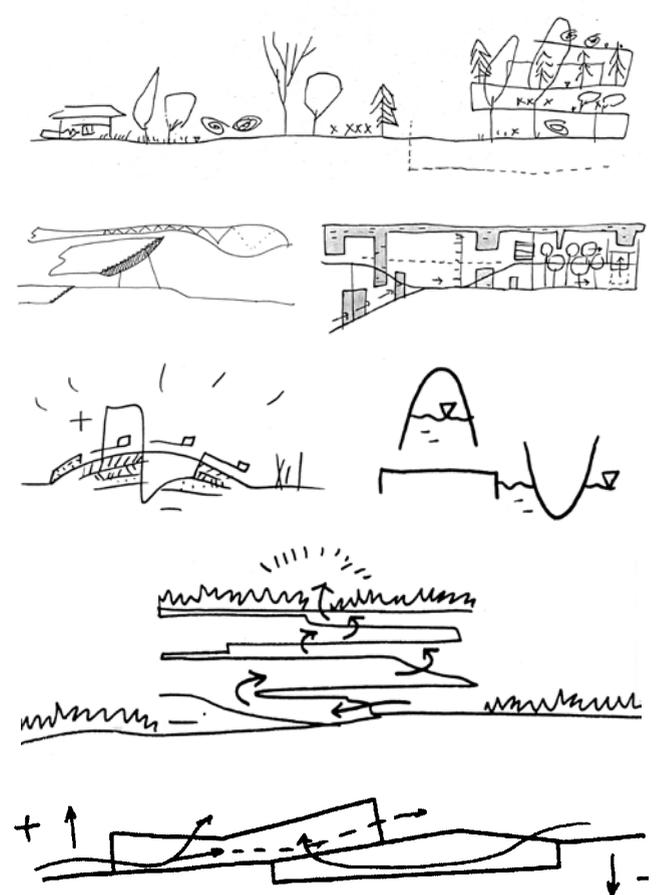
Despite its synthetic nature, the diagram understood as a “driving criteria” is neither a (hierarchizing) sketch nor an (intuitive) outline, but rather a “map”.

A battle map and a negotiation map.

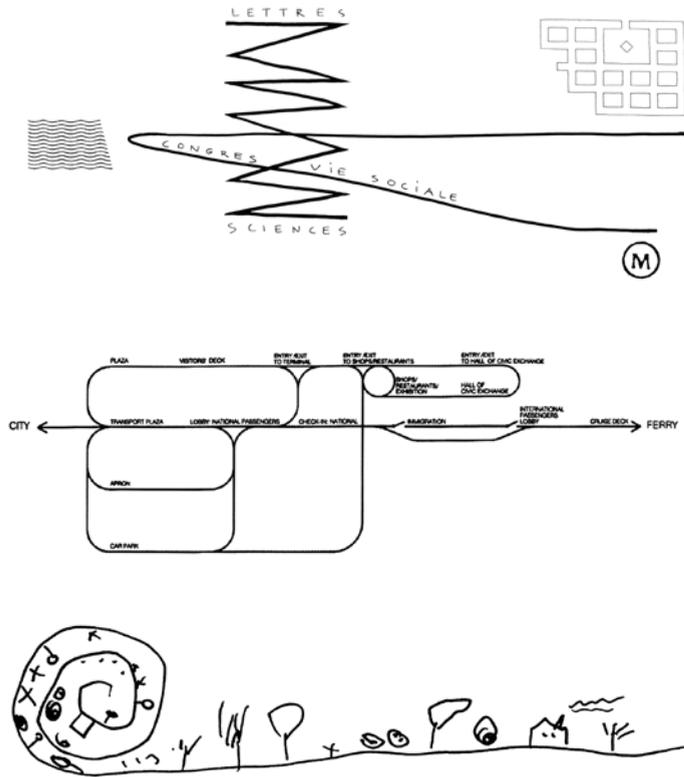
A “cartographic trajectory” of future evolving trajectories; precise in its dynamic reconnaissance, indeterminate in its ultimate materialization.



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.



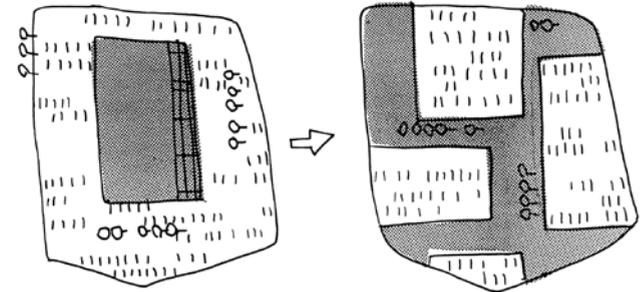
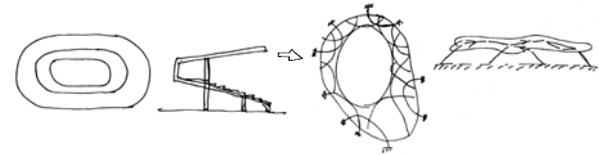
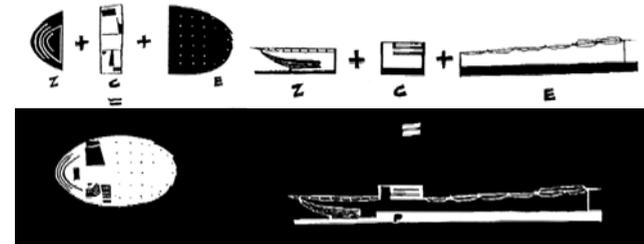
The operative condition of the "diagram-ideogram" is often demonstrated in the form of a (tactical) response associated with a possible (strategic) logic. A synthetic trajectory with the potential to bring together "reconnaissance", "diagnostic" and "response" into "criteria" for action/disposition.

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.

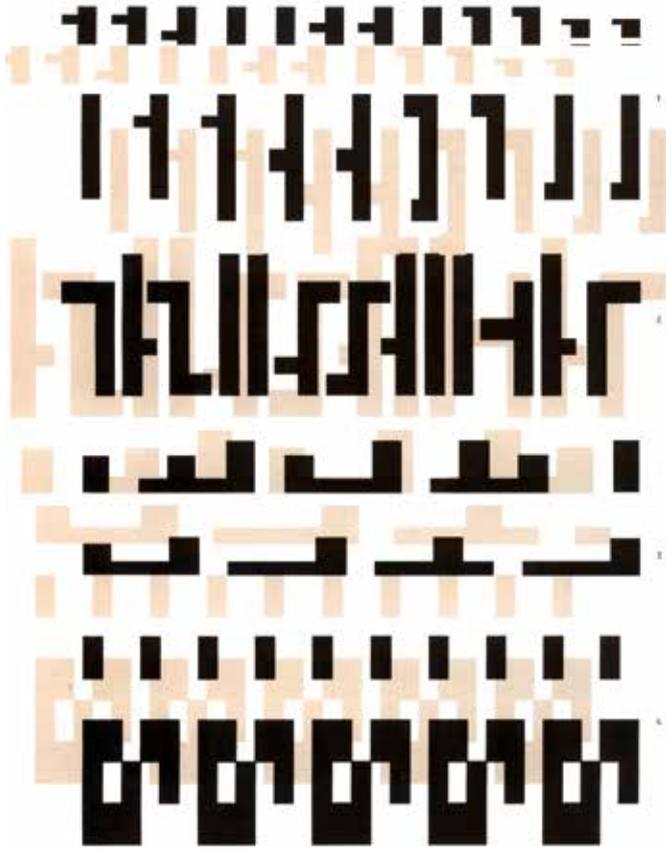
7.28. NJIRIC & NJIRIC: Ideogram for the Hortus Sanitatis project, Zagreb, 1997.



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.



02.08.94 (0.80) concrete project



02.08.94 (0.80) 3rd building phase (to 0.80)



02.08.94 (0.80) 3rd building phase (to 0.80) with upper floors (1.00)



02.08.94 (0.80) 3rd building phase (to 0.80)



02.08.94 (0.80) 3rd building phase (to 0.80)



02.08.94 (0.80) 3rd building phase (to 0.80)



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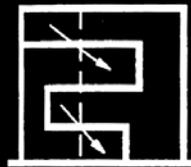


Design process

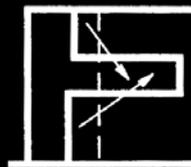
03.10.94 1 floor, 14 m deep

23.11.94 4 floors, 7 m deep

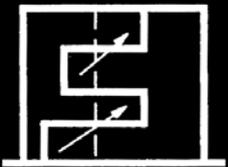
14.12.94 A house made of houses. House 1 needs no rooftop access. House 2 with restricted access to garden.



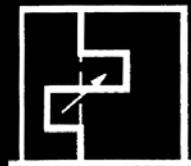
23.12.94 House 1 with no rooftop access



04.01.95 Access to garden too restricted for house 1



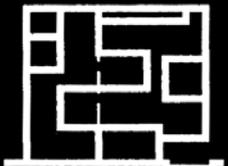
12.01.95 Access to garden too restricted for house 1



28.02.95 Includes access to garden and roof



09.03.95 Outdoor space, rooftop terrace for house 1. Terrace and entrance for house 2.



13.04.95 Definitive solution. Garage buildings on 1 and 2. Terrace on House 1. Included fire protection.

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

7.38. William Playfair, 1786. Curve diagram as visual trade balance (OASE no. 48, 1998).

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).

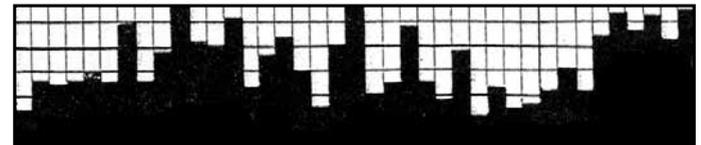
These “dispositions”, then, “speak” of other possibilities (and multiple) “dispositions” (specific “dynamic systems” that refer to general “dynamic systems”).

“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 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.

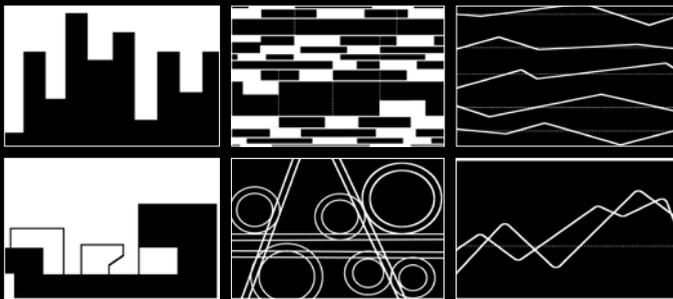
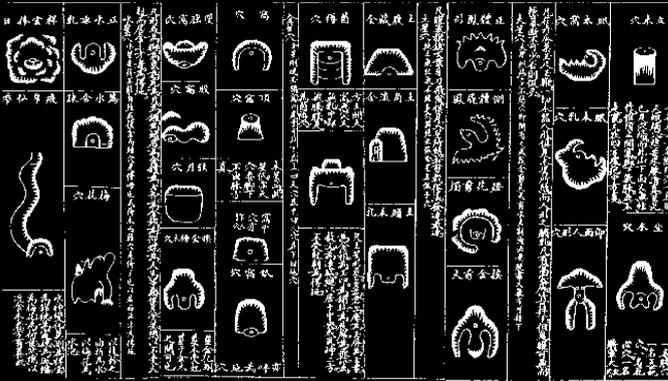


VII. Descriptors and Keys for a Taxonomy

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.



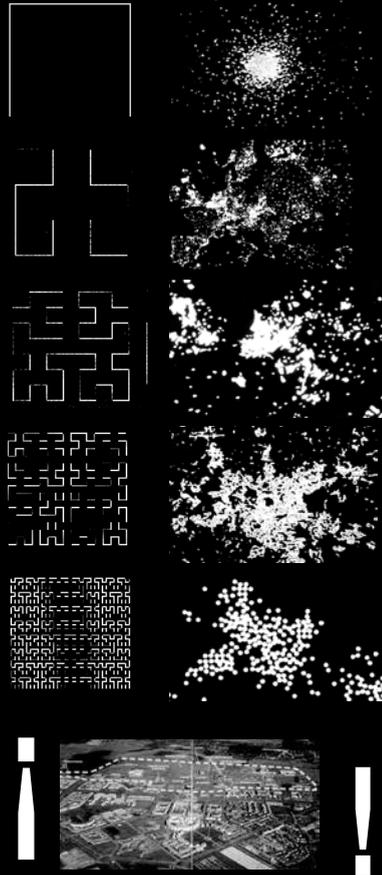
COMPLEX
GROWTHS-REGROWTHS
LOCAL ACCUMULATORS
Movements of
Concentration
(unfolding)

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.



7.42. 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 / twinning 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.

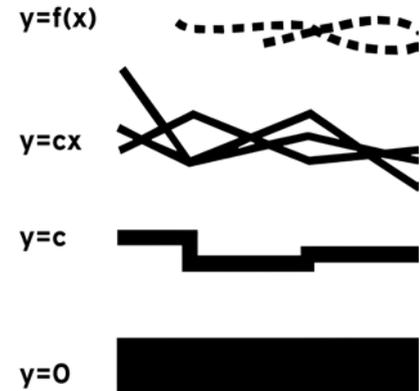
Between the medium and the means. The means and the environment.

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 be 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.