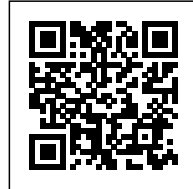


Dualisms.
Iñaki Ábalos

DUALISMS

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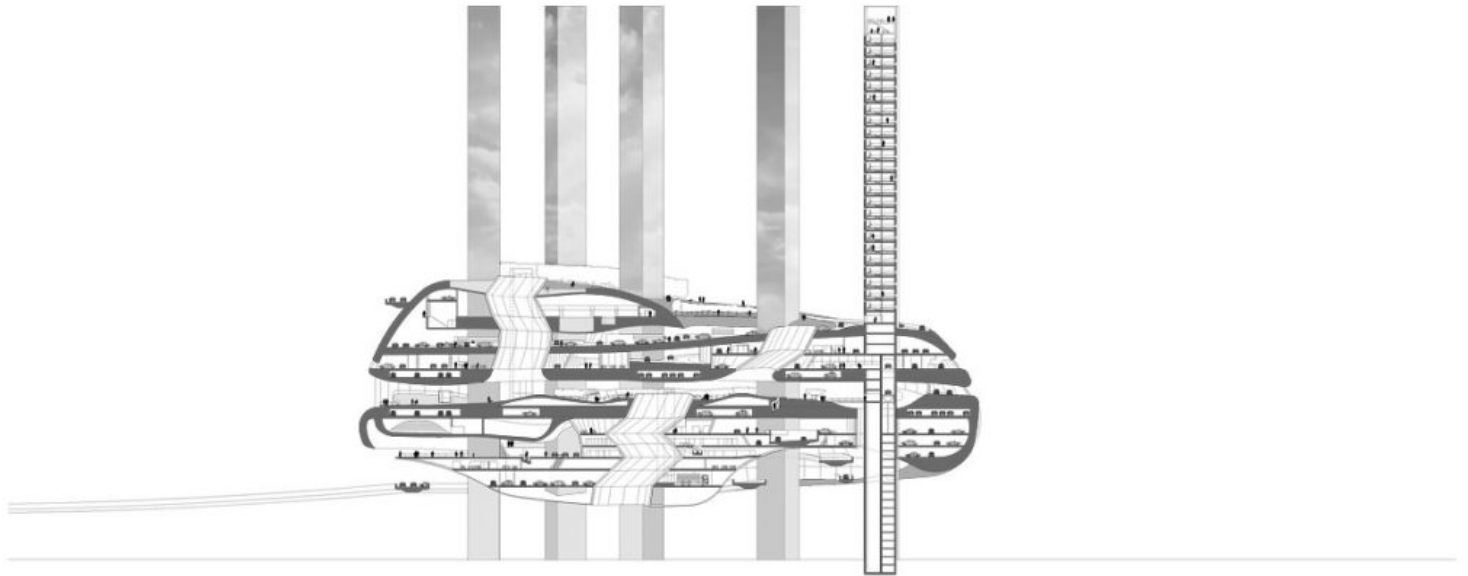


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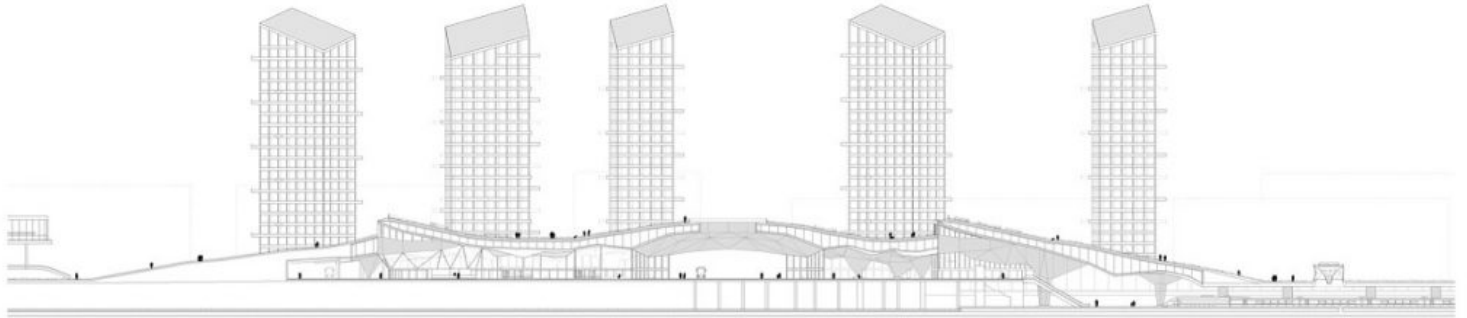
Authorship: Essay by Iñaki Ábalos, excerpted from [Essays on Thermodynamics, Architecture and Beauty](#) by Iñaki Ábalos and Renata Sentkiewicz, published by [Actar Publishers](#).

Much historic architecture takes its compositive tension from two theoretically incompatible morphological organizations that correspond to different universes or languages. This technique leads to a certain kind of monster or hybrid characterized by dualism.



1997

One of the basic monster assembly techniques involves the union of two organizations with a degree of compatibility and another obvious degree of incompatibility; in the organic world, the hybrid is a literal case of this type of assembly. Unions between different forms and materials can be carried out physically—and in this case the assembly will probably display seams and scars—or by processes of chemical fusion, giving the monster the appearance of a unique organism whose greatest visual effect will then consist in the surprise caused by its new “naturalness”.



2006

Dualisms may refer to limited scopes (for example the geometry used in each part) or can expand and infect almost all the scenarios affected by architecture, starting with its disciplinary definition, which is challenged by the view that the struggle between two disciplines (for example architecture and landscape) is intrinsic to the project. Or to the typological outline when the brief is duplicated (for example making it both infrastructural and public facility). Or by incorporating a material, formal and geometric contradiction (for example, necessarily using two materials whose logics and compatibilities do not fit together simply).

Likewise, space can be conceived by introducing tension between the lower and the upper parts, or between interior and exterior, or by means of intrusions of varying depths and differing configurations. From a thermodynamic viewpoint, these tensions can be regarded as characteristic of the flow of heat gain between heat sources and sinks, or between a degree of energy passivity and activity, simultaneously combining lightness and mass, order and disorder, natural passive processes and thermal devices. The processes of construction or fabrication can also be addressed by introducing duality (for example, handcrafting some areas and using robotized production in others).

Modern-day attention to the machine has not ventured as far as the physics or the spatial structure of thermal devices. A close look at different machines—such as the exchanger, the Stirling engine, the cooling unit—allows us not only to understand the precision of the relation between form,

material and energy, but also the essentially dual nature of any thermal machine at any scale, and a building is just that, at multiple scales. In short, though repellent and alien to the modern orthodox sensibility, these dualities are the motor of thermodynamic vitality at all scales of the project. Furthermore, dualisms act not only performatively, but also creatively or, if you like, compositively. They are both constraints and plastic opportunities. They can be induced by the objective conditions of the brief (mixed briefs, as in the works of James Stirling and Ludwig Leo), but they are often also an internal technique of the design act, used to create a catalyzing tension for territories or plots devoid of qualities or attributes.

The movement embodied in Borromini's architecture is a well known example (it was in the language employed throughout the classical arch that this technique was consolidated, being massively used afterwards by the Romantics and the picturesque painters).

From a contemporary viewpoint, centered not only on energy but also social, economic and cultural performativity, it is curious to see how these dualisms—now directed at composing self-organizing and feedback systems—can introduce us into a territory of everyone and no-one, linked to the compositive resources of the classical and Romantic arch but in theory separate from its interests and, therefore, with a large capacity for generating agreement and conversation about issues of complex order, the solution of which tends to center more on paradoxes than on objectifiable rationality. This is not just in the field of architecture; from Mary Shelley's *Frankenstein*, initially a competition among friends, to Raymond Roussel (*How I wrote Certain Of My Books* would be the essential reference), this technique is a self-imposed mechanism, indifferent to the purpose of the project and its local conditions.

If we look at the list of dualisms identifiable over the years in some of our projects, the first thing that meets the eye is a recurrence in the crossing of disciplines, in the crossing of material and geometric resources, in the choice of a paradoxical combination of the massive and the intricate; the technical use of natural elements and the ornamental or landscape use of technical materials. It is now some years ago that we formulated a new "naturalness" in which the hybrid condition of a thermodynamic approach to architecture acquired the value of an operating system, leading to the first of the projects presented here, the hotel and convention center on the M40 in Madrid.

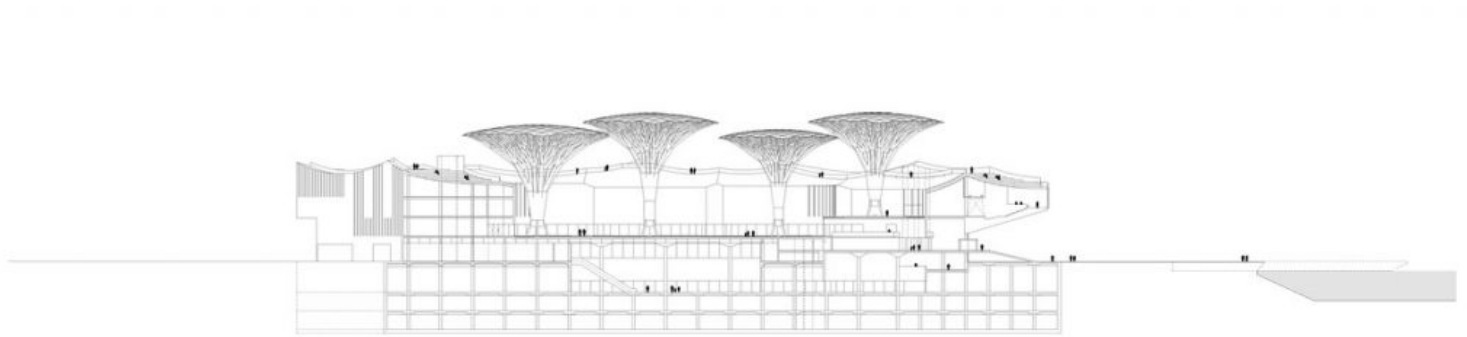
Hybrid Technique, Mestizo Aesthetic

Sensitivity to nature-oriented policies has influenced technical paradigms, with interest shifting from high-tech experiments, a residue of the modern spirit, to hybrid models, where the accent is placed on the interaction between massive and energetically inert natural materials and highly sophisticated, lightweight and energetically active artificial materials, which respond sensitively to environmental variation, giving rise to composite systems in which the former are responsible for accumulating and reducing exchanges while the latter act as generators, harnessing energy resources.

This new technological model implies a shift from aspects of material organization—mass production, simplified assembly, time and cost optimisation, etc.—to the rational organization of the energy consumed both during production and upkeep of the building. This shift now enables us to design systems in terms not of coherence and unity of materials, but of environmental coherence, thereby opening up the field to experiments in which the coherent mix of heterogeneous materials is a new and characteristic visual feature. This hybrid materiality involves a thoroughgoing transformation of aesthetic ideals in keeping with the intermixing of our human landscapes.

Only recently, on the publication of a monograph about Logroño Intermodal Station and its Urban Park 1, did we see, when bringing together the sections of the two projects, that the similarities pointed to a design technique that was corroborated by introducing a third element: the section of Huaafa Art Museum in Zhuhai. The call of a dualistic systematic that expands not only over lexical and iconographic but also over tectonic and thermodynamic territories serves in all cases to multiply public and collective uses.

The briefs of each example maintain a tension that is applied to the compositive and typological elements existing between the public and the private condition, between energy demand and the need for dissipation, between their position inside and their need to emerge to the exterior.



2014

The result is a conflict of compatibilities between lightness and mass, natural element and thermal device, between will to form and performance. We like to think that this dualistic combination not only serves to generate prototypes that contribute to a new notion of quality but that it can also provide some answers to the shortcomings facing the new metropolises and their inhabitants.

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Dualisms

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