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Seven lamps of architectural design

Turning on the lamps

The contemporary model of the Design Studio is constantly being tested and revised, before a rising heterodoxy of programs and methods. As a key, it is proposed the retrieval of John Ruskin's essay *The Seven Lamps of Architecture*. Written in 1849, the seven principles aimed at rescuing, in an almost primitive way, Architecture as an Art that enlightens the remaining ones. It returns to the example of Venice's medieval stones to go forward on the symbolic indefiniteness of the industrial age, alerted by Pugin when in *Contrasts* (1836) the verticality of industrial chimneys competed with the towers of the cathedrals. Ruskin's lamps would indicate the modern way for the total artwork by William Morris[1]. With Morris, design would be a part of a single process from concept to work, anticipating Bauhaus's Modern Design.

To Ruskin, the light for architecture came from *Sacrifice*, *Truth*, *Power*, *Beauty*, *Life*, *Memory* and finally *Obedience*. Morality was the colour of Ruskin's light. Sixteen years ago, the magazine *Assemblage* dedicated an issue to Ruskin. As guest editor, Jennifer Bloomer started saying *Ruskin is out of fashion* (1997, p.8). Accused of being anti-modern, ignoring spatial organization in favour of delirious ornaments, Ruskin is possibly still out of fashion. His distrust on progress, as a salvific end to happiness, positions him very close to the times we are living and perhaps that is why it is so compelling to revisit him.

Following, we will risk *Seven Lamps of Architectural Design*. Differently from Ruskin's light, the light we propose is not meant to be absolute, or strictly ideological. Ultimately it justifies itself when the path of research into design is yet submerged in obscurity. The light of *research by design* is multi-coloured: is it individual, subjective, phenomenological, collective, analytical or even scientific?

Hence, what research does the Architectural Design want?

Memory

Memory and oblivion. The construction of a critical intelligence, of refusal or acceptance, must be cultivated both with the knowledge on the architecture of the present, as of the past.

From the seven lamps that will follow, memory is the only lamp *stolen* from Ruskin. In his lamp, memory was quite the same as history, when saying, in one of his aphorisms, *Architecture is to be made historical and preserved as such[2]* (1849 [1880], p.235). But, from Ruskin's late endeavours, when started to teach drawing at Oxford University, in 1869, other vision would start to appear, as pointed by Varnelis (1998, p.213).

The exercises delivered to students tended from detailed to abstract and formal, through the reaffirmation of an *innocence of the eye, that is to say, of a sort of childish perception* (Ruskin, 1857, p.64).

Later, the modernist balance of Bauhaus, when obliterating the paper of history, was interconnected with the recognition of these innate abilities[3]. Right from the first year, in the *Vorkurs*, Albers and Nagy would implement some exercises where students were asked to abandon their preconceptions and construct a supposed new vision, promoting *oblivion* instead of *memory*.


1. Drawings of Venetian gothic capitals. Plate II. J. Ruskin. 1851 [*The Stones of Venice*. Vol 3. To face p.8].
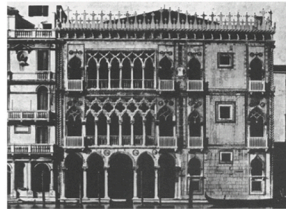
2. Ca d'Oro's façade. [C. Rowe, R. Slutzky. 1971. Transparency: literal and phenomenal. Part II. *Perspecta*. Yale Publications. p.292].
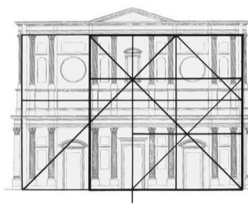
3. / 4. Comparison between Michelangelo's San Lorenzo and Mondrian's Boogie Woogie. C. Rowe, R. Slutzky. 1971 [Transparency: literal and phenomenal. Part II. *Perspecta*. Yale Publications. pp.295,297].
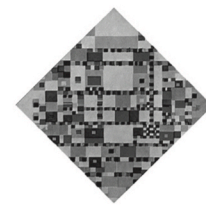
Nevertheless this *innocent eye*, when too innocent, might ignore other abilities, not so innate but central to the individual's relationship with the world. The decision of accepting, or refusing, outside stimulus depends also on the slow and complex construction of one's memory, of one's identity. So, when recognizing history, and its resonance into the present, the importance of its research is revealed, envisioning an individual process, inside the framework of architectural design.

Research

Research and experience. Assuming design as a process of reflection in action (Schön, 1983), decision-making, step by step, depends not only on the definition of the design problem, but principally of the architect's assertiveness to the problem.

Colin Rowe and Robert Slutzky, in the second part of their essay *Transparency: Literal and Phenomenal* (1971), make use of some of the façades to the Grand Canal of Venice, like Ca' d'Oro's [4], ultimately to test their concept of *Transparency*.

Likewise, Ca' d'Oro was one of the buildings portrayed by Ruskin. It is possible to construct a comparison between both studies. Even separated by more than a century, the formal evidence of the object did not change. However, the same object in different studies looks different. For hypothesis, the differences arise from the *eyes that see*.

In *Stones of Venice* (1851), Ruskin *sees* Ca' d'Oro in its style and in the minuteness of the work of the capitals [5] (*fig.1*). In *Transparency*, Rowe and Slutzky *see* Ca' d'Oro through the composition of the façade, implementing the so modern *gestaltian* way of seeing, to disclose a bipartite organisation and a shy tri-dimensionality in the façade (*fig.2*).

If Ruskin supports his criticism on Canaletto, by remembering of the gilded decorations of Venice, mainly of Ca' d'Oro (Ruskin,1843 [1848],p.109), Rowe and Slutzky compare Mondrian's Boogie Woogie with Michelangelo's San Lorenzo (*fig.3, 4*).

To Ruskin, the interpretation of Venice was not merely disciplinary. It was foremost, on the one side an alternative to the English neoclassical dissemination and on the other side, a construction of a social message, critical of an industrialized production and degradation of labour conditions.

To Rowe and Slutzky, the case study could be the same. But how they positioned themselves before the built object, is the key of the mutation nurtured. Differently from Ruskin, they embrace rationality for the analysis. In the end, conclusions do not evolve to an interpretation of other criteria: social causes or ideological purposes belong to another discourse.

Method

Method and Process. Is the process of research by design a predictable path to achieve the solution to a problem? Or is it a process where method must be so elementary that enables freedom to act inside an established framework?

In research by design it is crucial to question if a preconceived rational coherence, inside the evolving method of the design process, may limit the creation of surprising solutions.

The dissimilarity of both researches, of Ruskin and of Rowe and Slutzky, is not only a cause of an evolutionary process underlying the broader concept of *architectural research*. The final purpose of Ruskin's research agenda was not an operative one directly to the design, as we might attribute to the formal agenda of Rowe and Slutzky. We have to remember they were in the context of an architecture school (Austin, Texas, USA).

Conjoint with John Hejduk and Bernard Hoesli, they were implementing a pioneer study on modern movement, *circa* forty years after its incubation. In the context of the design studio, the concern was to develop educational tools. The referred research on *Transparency* culminated, eventually, in several exercises presented to the students.

We cannot disregard the antecedences of this analytical work. Rowe's also known essay, *Mathematics of the Ideal Villa* (1947), was a speculative comparison between the geometries of Palladio's Villa Foscari and Le Corbusier's Villa Stein [6].

Therefore, the context behind the researcher, when, where and how he moves, and mostly why, constitutes a concrete influence to the path of the investigation, from the definition of the problem and the construction of a method, until the formulation of conclusions.

Projection

Projection and model. Models serve as representations of projected ideas. Eventually, the built object is always a projection of an idea and of the author, as the opposite is also true; idea and the author are projections of the outside reality.

The power of a projected architectural idea reached us intact from the Enlightenment. Boullée or Ledoux advanced to architecture's autonomy, through the endorsement of a utopian dimension, within Plans, Elevations and Sections. These rational models as such, constructed a projection, more than a reality yet to exist. These were bi-dimensional models conquering architectural autonomy from reality.
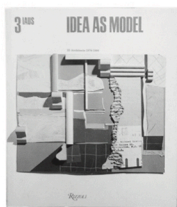
In 1976, the Institute for Architecture and Urban Studies (IAUS) decided to mount an exhibition in New York, entitled *Idea as Model* (*fig.5*). Its purpose was *to clarify new means of investigating architecture in three-dimensional form* (Frampton, Kolbowski, 1981, p.3) [7]. In the exhibition, we could perceive the autonomy of models of John Hejduk's Third Wall House, or Rafael Moneo's Museum of Roman Art in Merida and, between others, we could even encounter Pancho Guedes, with his Godhouse (*fig.6*).

Across the Atlantic, generic models were subject of research in Cambridge, in the context of Centre for Land Use and Built Form Studies. Marcial Echenique, in 1972, published *Models: a discussion*, where he theorized models and frameworks [8]. Then, he classified models into three categories depending on what they are *made for*, *made of* and their *time factor*.

In the context of urban planning, this pragmatic classification was triggered to engage models to the comprehension of reality. For the contrary, the aim of *Idea as Model* was to investigate model's autonomy and its conceptual power as container of an idea.

Knowledge

Knowledge and practice. Practice is the nature of architectural design. Individual research by practice, in architectural design, enriches
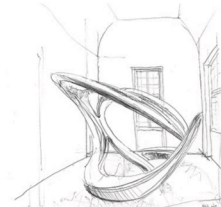

5. Cover of the catalogue *Idea as model*. 1981 [Institute for Architecture and Urban Studies. Rizzoli].
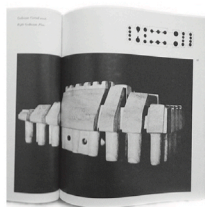
6. Godhouse model. P. Guedes. 1981 [K. Frampton, S. Kolbowski (eds.) *Idea as model*. Institute for Architecture and Urban Studies. Rizzoli. pp.44-45].

7. Villa Foscari at Malcontenta. Andrea Palladio. 1558 [Photo: Bruno Gil, 2012].

8. Aura-S installed in a room of the Villa Foscari's piano nobile. Design team: Z. Hadid, P. Schumacher, M. Lanza and F. Wirz. 2008 [Hand drawing: Bruno Gil, 2012].

individual knowledge, implicitly, and may contribute to transform this knowledge, as collective.

The integration of architecture schools in the context of Universities, comprised by other disciplines, resulted in some signs of undesired disciplining of architecture. But persists the opportunity of a synchronic interchange, if the core of architecture maintains untouched. If the mission of the University is that of a knowledge construction inside of a research culture, quoting Mário Krüger, *research is to transform the unexplainable in predictable and the architectural design is exactly to transform the predictable in unexplainable* (2012). So, assessing architectural research is also to consider the balance between *techne* (as implicit knowledge) and *episteme* (as explicit knowledge).

The underlying of a disciplinary autonomy by Aldo Rossi came precisely when, through research, he was able to recognize undisputed invariants in architecture, and theorized them explicitly in *L'Architettura della città* (1966). At the same time that he reinforced the desired autonomy, he constructed collective knowledge researching through design.

Also developed as a rational endeavour, the *Universitas Project* was a two-year research (1970–72) conceived by Emilio Ambasz, in New York. The research, instead of dealing with the practice of architecture, aimed a *new type of University concerned with the evaluation and design of man-made milieu* (1971). Although it envisioned the implementation of an experimental institution of knowledge, during a second stage of the research, probably due to its eagerness the main objective was never accomplished.

If *Universitas Project* unfolded research for embracing the variants and interconnections with the *milieu*, Rossi aimed for the invariants and specificities of architecture, researching within the realm of design practice.

Language
Language and Image. It is not linear that an image can't be itself a language. The communication power of the image depends on its meaning and consequently on the message.

The language of architecture was central to postmodernity. Meaning was the main focus and signs were the entities of a visual grammar. Denise Scott Brown and Robert Venturi in Las Vegas (1972) started an investigation mixed between the analytical and the pop, making use of semiotics as a tool[9].

In *Language of Post-Modern Architecture*, Charles Jencks criticised a symbolic weakness in Mies van der Rohe's language. In the IIT's campus in Chicago, Jencks compared the boiler plant as a cathedral, and the plain campus chapel as a boiler house (1977). Like Pugin in 1836, Jencks criticized a symbolic indefiniteness, but in the context of a high-modern architecture.

However, white walls were themselves a medium of the international style. Along with the five points, whiteness was the media of modern language, as strikingly placed by Mark Wigley (1995). Curiously, for Ruskin white was also subject of interpretation, as pointed by Bloomer (1997, p.9), reminding us of his discussion of *Villa and Cottage Architecture* in the early writing of 1838, *The Poetry of Architecture*. The apologist of the ornament, involved in his self-contradictions, after appointing that *whiteness destroys a great deal of venerable character* (1838 [1905], p.83), defended that *if the colour is to be white, we can have no ornament, for the shadows would make it far too conspicuous* (1838 [1905], p.170).

Ruskin was known frequently for his non-linear form of narrative structure, which was similar to patchwork. Incredibly, how Ruskin was, at the same time, so *Pre-modern* and *Post-modern avant la lettre*, without ever being modern.

Today, the language that begins to be subject of reflection, during conception and research by design, is that of an artificial DNA, which rules the forms of the conceived object. Again in the 1970's, we could remember Stiny and Gips (1972) and their analogical *shape grammar*[10], nowadays digitally implemented in many of the drawing software. Despite its prominence as a design instrument, it must be always critically assessed when automated.

Invention
Invention and emergence. The introduction of computing into processes of form generation questions the authorship. Used in computing jargon, the term emergence admits a degree of indeterminism and indicates the appearance of solutions of a new type, within default constraints. Authorship becomes shared between the invention of the architect and the emergence of the program of constraints.

The language stated on parametrics in architecture is being extremely defended. One of his more passionate defenders, Patrik Schumacher, has inclusively written a manifesto for a new style: the style of *Parametricism*. For Schumacher, styles function as design research programs that allow *the construction of a systematic series of design experiments* (2008)[11]. Thus, this takes us back to the *lamp of method* and the freedom for invention hindered by a preconceived rational coherence, inside the evolving method of the design process.

Returning to Venice, to Palladio's Villa Foscari (*fig.7*), there is a recent example of this language, precisely by Schumacher and Zaha Hadid. According to the description of the object, entitled Aura[12] (*fig.8*), its conformation results from an *interpretation* of Palladio's proportions for the villa, justification which, to say the least, is all but obvious:

The frequency curves generated by the harmonic proportional system of the villa were progressively transformed, through mathematical algorithms, to define an elementary form that contains in its DNA the full set of Palladian rules (Zaha Hadid Architects, 2008).

The mentioned *interpretation* depends on the process. If the relevance of those referred transformations, overlap the initial problem, the original question tends to dilution and ultimately to its totally oblivion. Therefore, in Aura what does really remain from the original proportions of Palladio? The only obvious reading is the reinforcement of the paralyzed geometry of the Villa when inhabited by this corpus, which *emerged* deprived of a critical assessment.

Hence, more than a work of Schumacher or Zaha, Aura is a work without authorship. It is an orphan adopted by Villa Foscari, even if at the beginning they were supposed to share the same DNA.

Turning off the lamps
To Ruskin, the lamps served their original function — enemies of obscurity, of darkness. From Ruskin, more than the title, we propose to emulate the diligent attitude in clarifying a context, or first obscuring it and, only then, clarifying it.

The lamps of *memory, research, method, projection, knowledge, language* and *invention*, more than utterly developed concepts, were brought here as flashes, considered invariants, yet critical, for the enlightenment of the role of research in the design process. The number seven here it is not important. The lamps could be six or eight.

Nevertheless, seven, are also the deadly sins.

1 → As Nicolaus Pevsner would defend in his Pioneers of Modern Design, in 1949.

2 → in the 6th edition of the book (1880) Ruskin included 33 aphorisms.

3 → In fact, this conviction on innate abilities, was already foreseen by Alberti in De re Aedificatoria (book IX, chapter 5).

4 → Palace from the quattrocento (1420-34), Ca' d'Oro represents one of the more accutilant examples of the Venetian gothic.

5 → Of what remains, the most beautiful portions are, or were, when I last saw them, the capitals of the windows in the upper story, most glorious sculpture of the fourteenth century. (Ruskin, 1851 [1867], p.293)

6 → Nevertheless, these studies were the result of previous work of Rowe's mentor, Rudolf Wittkower, when bringing an analytical rationality to the investigation of the architectural object, making use of Palladio's villas and Alberti's churches.

7 → To Eisenman, founder of the IAUS, models, as architectural drawings, could have an artistic or conceptual existence of their own (Eisenman, 1981, p.1).

8 → This paper was based on LUBFS Working Paper no. 6, published in 1968.

9 → Contemporarily, in the context of the IAUS, Mario Gandelsonas and Diana Agrest developed a thorough research on semiotic studies.

10 → Created in UCLA in the seventies and then developed in MIT.

11 → Importing from philosophy of science to design, the principles of scientific research programmes developed by Lakatos (1978).

12 → Two sculptures, entitled Aura-L and Aura-S, were designed for the Venice Architecture Biennale 2008 and to celebrate the 500th anniversary of Palladio's birth. Aura-S remained in the Villa after the official exhibition.

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