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IMPLICIT ARCHITECTURES

UKRYTE ARCHITEKTURY

Abstract

Concrete transmutation, necessary for the construction of an architectural work, not only generates chemical-physical modifications that characterize the alchemical transition from the semi-solid to the solid state, but also implicit architectures – often unknown, impermanent or invisible – with autonomous poetry. This paper investigates the phenomenology of concrete architecture through a marginal look, i.e. by abstraction and discomposition, in search of those transient figures, concealed or not considered, which, like the finished work, enclose broad conceptual imaginaries that are fertile to architectural thought.

Keywords: implicit architectures; abstraction and discomposition; partial configurations

Streszczenie

Niezbędna do tworzenia dzieł architektonicznych transmutacja betonu nie tylko generuje chemiczno-fizyczne modyfikacje, które cechują alchemiczne przejście od stanu półstałego do stałego, ale także ukryte architektury – często nieznane, nietrwale lub niewidoczne – z ich autonomiczną poezją. Artykuł zgłębia fenomenologię architektury betonowej ze skrajnej perspektywy, poprzez abstrakcję i dekompozycję, w poszukiwaniu tych przejściowych postaci, ukrytych lub nieuwzględnionych, które, podobnie jak ukończone dzieło, obejmują szerokie wyobrażenia konceptualne, ożywiające myśl architektoniczną.

Słowa kluczowe: architektury ukryte; abstrakcja i dekompozycja; konfiguracje częściowe

The observation of the construction process of an architectural work, allows structural figures of matter and composition often bizarre – evocative of a “spectral dimension of what happens”¹ – then unimaginable or invisible to be seen. Abstraction and discomposition can make intelligible the intrinsic processes of the accomplished work, through isolation, arrest, enlargement, reduction, fragmentation or dislocation. These allow us to capture and make visible otherwise unknown or imperceptible figures. They correspond to the

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¹ R. Musil (1926), *A che cosa sta lavorando? Colloquio con Robert Musil*. On (edited by) Adolf Frisé (1980). *Diari 1899–1941*, Torino: Einaudi, tomo 2, p. 1565–1568.

exploration on the contrary of a poetic potential where “the transitional, the fugitive, the contingent”² can open to new imaginaries of a general theory as well as particular. Based on a changing relationship between space and time, these compositions can be made available to stimulate multiple projects, simultaneously preserving them in a place of the memory.

Similarly, according to the *project on the contrary*, just outlined, it is possible to explore the *occult* dimension that architectural transmutation of concrete preserves. The *alchemic* transition we are talking about generates not only physical-chemical modifications of matter (from semi-solid to solid), but also *phantasmic residues* and *partial configurations*.

According to Pier Luigi Nervi, work in concrete brings with it other architectures, some of which are “of provisional character and of which, at the end, no trace remains”³. The built work does not exhaust itself in the accomplished physicality, but it keeps the memory of other architectures that can still be intelligible, i.e. fruitful to a discussion on composition.

These are *implicit architectures* – marginal shapes often impermanent or invisible – variously spread in the time and space of construction. Like the “invisible cities” narrated by Marco Polo to Kublai Kahn⁴, the *implicit architectures* of a building, anatomically re-opened, draw a multi-dimensional reality. What remains of the architectural transmutation of concrete is thus a highlighter of multiple projects that are located *elsewhere*, i.e. that coexist in the work in different moments and places in mutual need of existence, because: variously dislocated in space (architecture of excavations) or in time (architecture of boards); incorporated in the construction (architecture of wires); implied to assembly (architecture of parts); or presence of an absence (architecture of traces). These are residues, waste elements of a step-by-step chronology. Like in László Moholy-Nagy’s X-rays or in the frames of Eadweard Muybridge, El Lissitzky or Etienne-Jules Marey, they correspond to paradoxical figures, fixed at different times. If burdened with a hypothetical permanence, they express the necessary coexistence of physical and conceptual opposites.

What keeps together these figures?

One answer is the construction to which they are in service, but not only. Anthropologist Gregory Bateson⁵, looking for the structure that connects a crab with other natural beings and man-made artifacts, proposes an answer via analogies. Morphology, rhythm, composition, repetition with modulation, etc., are re-generating elements also for architecture and its desire for beauty.

As in the dialectics between figure and relational space characterizing the paintings with bottles by Giorgio Morandi, the precious poetics of the concrete *implicit architectures* lie in the possibility to reverse the look, by questioning the figures and the relationships between things. And by rediscovering, on the one hand, how the complete work remains affected and, on the other hand, how related concepts and composite operations, define a theoretical and operational kaleidoscope that is fertile to new creative processes of production of space and meaning.

² Ch. Baudelaire (1863), *Il pittore della vita moderna*. On (edited by) Giuseppe Guglielmi, Ezio Raimondi (1981), *Charles Baudelaire. Scritti sull’arte*, Torino: Einaudi, p. 288.

³ P. L. Nervi (1965), *Costruire correttamente. Caratteristiche e possibilità delle strutture cementizie armate*. Milano: Hoepli, p. 18.

⁴ I. Calvino (1972), *Le città invisibili*. Torino: Einaudi.

⁵ G. Bateson (1984), *Mente e natura. Un’unità necessaria*. Milano: Adelphi.

1. Architecture of excavations

An *implicit architecture* of the concrete transmutation concerns the production of cement, sand and gravel. As it has been since ancient times, we think of the ancient Roman quarries, the extraction activity produces a material to be used to architectures built in *positive* and, together, a wasted place, landscape architectures built in *negative*.

The figures and relationships underlying this type of architecture are based on at least two principles.

The first relates to the poetics of subtraction, contained in power in the geology of matter, attributable to Michelangelo's "non-finite". The figures of artificial erosion are similar to the "involuntary art" of natural phenomena that offer architectures with a strong poetic charge. The action to subtract is intimately tied to the need to remove to make space, liberation from matter. According with Costantino Dardi, this is an architecture that has its own "in the contamination between sculpture and architecture"⁶. A thickness is suddenly made spongy, hollow, defining a mechanism with interiors where to live⁷. It is to work in search of emptiness in the full, of porosity in the thick skin, such as the ancient cities excavated in the earth. Like in *Menger's sponges*, the vacuum imprisoned by matter entails the possibility of designing via empty spaces that do not need to be filled. Their suspension character is embodied in the ability to accept action, to allow movement and stay.

The second principle relates to time, never indifferent, as an element of design definition. The excavation architecture reveals a significant space between the initial unit and the stratification of/in the time in *ruin*⁸. In picturesque poetry, *ruin* is the symbol of incompleteness, a tool for building natural/artificial landscapes produced by human fantasy. In architecture, it produces a distinct "new form" at every moment of the previous and subsequent conformation: an architecture in mutation, rather than a the piece of something lost. According to Georg Simmel, "in this way the ruins are a more significant and important phenomenon than the fragments of other destroyed works of art" and so "from what art in them still lives and that part of nature who already lives in them, has emerged a new totality, a characteristic unit"⁹.

2. Architecture of boards

At a certain stage, concrete is "liquid stone"¹⁰, a material devoid of its own form that can be shaped into figures. The technique involves double working: first the pouring into a container; then the dismantling, if not destruction, of the container itself.

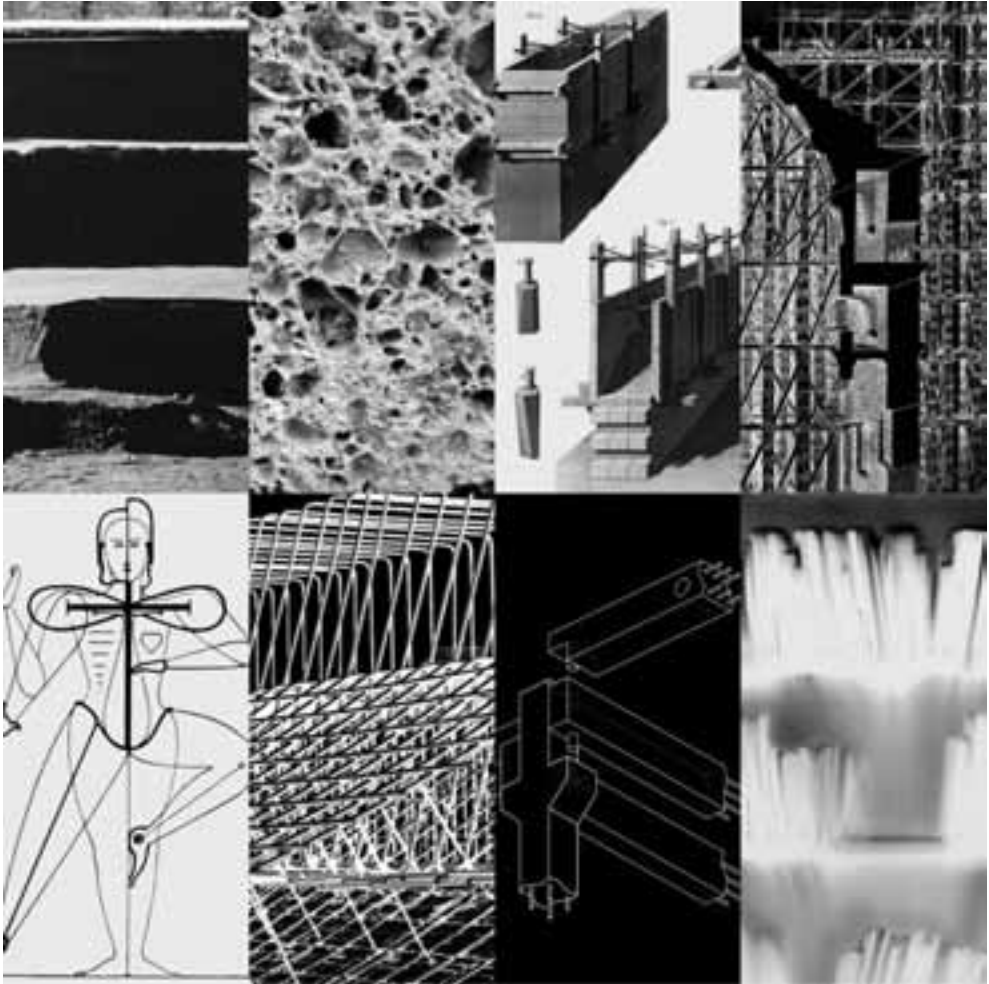
⁶ C. Dardi (1985), *Progetto per le cave nella Gola della Rossa a Serra San Quirico*, On, Casabella n. 575–576, 1991.

⁷ M. Heiddegger (1991), *Saggi e discorsi*. Milano: Mursia.

⁸ F. Duque (2002), *La fresca rovina della Terra. Dell'arte e i suoi rifiuti*, On (edited by) Lucio Sessa (2007), Napoli: Bibliopolis, p. 169.

⁹ G. Simmel (1913), *Saggi sul paesaggio*, On (edited by) Monica Sassatelli (2006), Roma: Armando Editore, Roma, p. 72–73.

¹⁰ L. Kahn (1998), *Conversations with students*, Architecture at Rice n. 26. New York: Princeton Architectural Press.



III. 1. *Implicit architectures* of the concrete transmutation: excavations, boards, wires, parts, traces

Like the glass for water, an *implicit architecture* of the concrete transmutation is that relating to the container necessary to shape it. These are impermanent architectures of boards – formwork – that have followed the evolution of constructive techniques and modifications of the meaning given to concrete in architecture. While, on the one hand, the formwork architecture has fulfilled the function of container *in negative*, the inverse spatial configuration, on the other hand, they have assumed the role of competing element in its tactile definition.

According to Pier Luigi Nervi, the concrete architecture is characterized by the “need to be, even if only for a moment, of an architecture of boards”. “The timber formwork is a forced step through its own wood shapes, which limit the freedom of cement”¹¹. While playing an essential role – think of the reconstructions of Roman and Renaissance machines and stems, or the illustrated tables of Giovanni Rondelet’s technological dictionary – it is rare to find a mention in disciplinary history. This seems to be due to the will to conceal the secrets of construction, rather than to the lack of attention given to this tool.

The figures and relationships underlying the architecture of these impermanent tools are based on the principle of delimitation. According to Henri Focillon, man always does things outside¹², he cannot penetrate matter. Architecture builds, however, an inner world, a complete space that measures with the laws of composition, geometry, perception. Through appropriate reduction or enlargement, we can recognize in these architectures a double face: on one side an *infernal* space, dotted with straight, diagonal, curved, inclined elements, interwoven with each other in the form of a fibrous skeleton; on the other side a smooth space, the one to be filled, that we can imagine living in another dimension. They do not declare an inside and an outside, but two distinct spatialities, in opposition to each other.

Even on these architectures, the sequence of assembly and subsequent disassembly suggests a constant configuration changeability and time, understood as compositional and spatial modification, is a design material.

3. Architecture of wires

A poetic of invisible intervals. At one time, the only visible sign of concrete transmutation is given by the metal framework texture. The morphology is built in *wireframe* through the rhythm of the *intervallum*.

The Latin *intervallum* indicates the linear element and, at the same time, what lies between the elements, the space included, the distance between each other. Protective elements of space integrity, repeated wires make a figure recognizable – support structure, weave of warp and weft – around which the relief will be realized. This *implicit architecture* of the concrete transmutation is written in the same way as the musical score: a pentagram of intervals needed to reinforce space.

¹¹ P. L. Nervi (1965), *Costruire correttamente. Caratteristiche e possibilità delle strutture cementizie armate*. Milano: Hoepli, p. 18.

¹² H. Focillon (1945), *Vita delle forme. Elogio della mano*. On (edited by) Enrico Castelnuovo, Sergio Bettini, Elena De Angeli (1990), Torino: Einaudi.

The figures and relationships underlying them point to the principle of building space by minimal elements. As in the abstraction theatre or in the mechanical bodies of Oskar Schlemmer, figures are reduced to a succession of discrete elements, slim abstract realities design unexpected thicknesses and volumes. Dematerialized architecture approaches the third dimension through the lines with which the textile space is sewn and resewn. “The silkworm gives way to the weaver”, “whose wires emerge as from underground places”, “uncertainties and tangles express tension to other spaces”, thinned or thickened they are “fluent as writing, light as a look, following the rhythm of a musical score”¹³. As in “Performers and Stage as Architecture” or in “Diagram for Gesture Dance”, cages ascribe stereometric diaphragms, *mechanically* and *rationally* governed by mathematics, in a kind of *acro-batic precision*. The forms are metaphysically suggested, as in the recent reconstruction of Edoardo Tresoldi’s Basilica of Sironto, a *hologram* designed to entertain a *fragile* dialogue with memory and time.

These are spaces built inside the space, where the body is reduced to *ectoplasm* on which to read the trajectories as well as in the Hungarian “Borderline” manifesto or in the Croatian pavilion presented at the 12th Venice International Architecture Exhibition. In both cases, a network of signs weaves a stripped morphology, but full in detail. Silent gestures, thin lines and figures, configured architectures that do not need a mass to be real.

4. Architecture of parts

At the beginning of the 1950s, Pier Luigi Nervi proposed the overcoming of the necessary architecture of the boards through the assembly of prefabricated “ferro-cement” parts.

The figures and relationships underlying this *implicit architecture* of the concrete transmutation refer to the assembly principle as a construction of an artifact by pre-assembled components. These components are connected to each other – dry, mechanical, assembly and disassembly, by gravity, joints or fasteners – and made solid according to a precise order. Each part has a meaning, which refers to an element of composition. As in poetic writing, the use of punctuation, grammar and chosen words satisfies the research of a composition with a special sound and colour, according to a principle of truth.

From the Baukasten to the Weissenhof prototype by Walter Gropius and Adolf Meyer, from Le Corbusier’s Dom-ino to the volumetric system of Habitat 67 by Moshe Safdie, to the Otto Steidle’s Osterwaldstrasse houses and so on, an assembly of elements is always defined by the project in detail.

The detail concerns architectural composition such as the minimal part that compose it. It is not only the constructive detail, but the detail corresponds to the discernment of beauty as “the harmony between all the members”, “so that nothing can be added or removed or changed unless it is worse”¹⁴.

¹³ M. Lai, (2007), *Arte e creatività*. On, Maria Dolores Picciau (edited by), (2014). *La ricerca della forma assoluta. Itinerari dell’esperienza artistica di Maria Lai*. Cagliari: Condaghes, p. 63.

¹⁴ L. B. Alberti (1550), *De re aedificatoria*, Book IX, Chapter V.

According to Gianugo Polesello's suggestion, "the detail is specified by the composition (an assembly), departure to define the correct technical solution and not vice versa"¹⁵ which implies the architecture as a technique.

As in the X-ray shells of Donata Pizzi¹⁶ or in the D'Arcy Tompson's drawings¹⁷, the idea of composing "minimal units"¹⁸ refers to constructivity without masking. At the base there is the abstraction, connection according to precise compositional rules. Like in the world of machines or in military art, the assembly from a compositional method becomes a constructive art based on figurative and relational economics.

5. Architecture of traces

This *implicit architecture* of the concrete transmutation is apparently the furthest from construction, yet it contains – keeps together – all the previous. The production of concrete has always been linked to a rigorous *magisterium* of codified rituals that bound the construction to mysterious virtues deliberately concealed, hidden, or made apparently casually. We refer to the stratagems used to treat the face-to-face concrete surface marked, more or less strongly, by matrices.

In some cases, the ugly becomes beautiful because true, exaltation of imperfection or sophistication. From Lina Bo Bardi to Carlo Scarpa, from Giovanni Michelucci to Giancarlo De Carlo, from Sergio Musmeci to Eero Saarinen, etc. we can recognize different declinations of the visual and tactile properties transmitted to the architectural work to animate its "thin texture"¹⁹.

A work of art can begin with the sign of destruction²⁰, what is the transmutation. "Moving objects to make space, as it is said, the artist was taken from the vision, landscape or still life of the traces left in the negative by dust. And that is exactly what he decides to work on. It was to intensify, to emphasize, to restore consistency to the existing imprints, creating new ones with an operative, specific material and formal choice"²¹. Like the "shadows of things" by Claudio Parmiggiani, the concrete artificial stone preserves traces, impressions, *spots of memory*, between nature and artifice, light and shadow, static and changeable.

Some early parallelisms can be seen in the cofferdams described by Vitruvio²²: supporting walls in woven reeds tied, then embedded in the construction. Similarly, in the latest "flexible formwork" or "fabric mould" techniques, the traces design textures on the surface of the architecture, accumulation and stretching as folds of the skin. In some cases, distortion is pushed to the point of removing the perceptual unit into a kind of informal clot.

¹⁵ G. Polesello (1980), *Progetto realizzato*. On VV.AA., Venezia: Marsilio.

¹⁶ D. Pizzi (2006), *Cochiglie ai raggi X*. Mantova: Corraini.

¹⁷ D'Arcy W. Tompson (1961), *On Growth and Form*. Cambridge: Cambridge University Press.

¹⁸ E. Nathan Rogers (1981), *Gli elementi del fenomeno architettonico*. Napoli: Guida Editori.

¹⁹ L. Kahn (1998), *Conversations with students*. Architecture at Rice n. 26. New York: Princeton Architectural Press.

²⁰ C. Sartwell (2006), *I sei nomi della bellezza: l'esperienza estetica del mondo*. Torino: Einaudi.

²¹ G. Didi-Huberman (2009), *Sculture d'ombra, aria polvere impronte fantasmici*. Milano: Mondadori Electa, p. 9.

²² Vitruvius (ca. 1480), *De architectura*.

In all cases, the multiplicity of signs and imperfections, both of a material and methodological order, reveal a common aesthetic intent, that is of a *spatial narrative* of figurative repertoire just unveiled. The imprints on the concrete walls are the presence of everything that has passed, the shadows of the things that transmutation has guarded, the materials to realize these spaces, *ectoplasms* of almost disappeared forms, vanished at the frontier between different states of matter.

The fantastic architectures that we face before investigating the concrete transmutation bring to mind Lewis Carroll's Alice²³ who, lost, she is in a seemingly meaningless and paradoxical parallel world. According to Gilles Deleuze, the paradoxes of meaning represent "what destroys common sense as a single meaning, but also what destroys common sense as an assignment of fixed identities"²⁴.

The reconstruction of these changing *implicit architectures* – set along the axis of the time of concrete work – is thus a research of meaning: where abstraction and decomposition of the magical imagery underlying the concrete transmutation can be fruitful to architectural thinking, constantly seeking to solve complexity by collecting and summarizing all the elements needed for the project.

References

- [1] Alberti L. B., *De re aedificatoria*, Book IX, Chapter V, 1550.
- [2] Bateson G., *Mente e natura. Un'unità necessaria*. Milano: Adelphi, 1984.
- [3] Baudelaire Ch., *Il pittore della vita moderna*. On (edited by) Giuseppe Guglielmi, Ezio Raimondi (1981). *Charles Baudelaire. Scritti sull'arte*, Torino: Einaudi, 1863.
- [4] Calvino I., *Le città invisibili*. Torino: Einaudi, 1972.
- [5] Carrol L., *Le avventure di Alice nel paese delle meraviglie*. It. Edition (2000) Milano: Mondadori, 1865.
- [6] Dardi C., *Progetto per le cave nella Gola della Rossa a Serra San Quirico*. On, Casabella n. 575–576, 1991, 1985.
- [7] Deleuze G., *Logica del senso*. Milano: Feltrinelli, 1975.
- [8] Didi-Huberman G., *Sculture d'ombra, aria polvere impronte fantasma*. Milano: Mondadori Electa, 2009.
- [9] Duque F., *La fresca rovina della Terra. Dell'arte e i suoi rifiuti*. On (edited by) Lucio Sessa (2007), Napoli: Bibliopolis, 2002.
- [10] Focillon H., *Vita delle forme. Elogio della mano*. On (edited by) Enrico Castelnuovo, Sergio Bettini, Elena De Angeli (1990), Torino: Einaudi, 1945.
- [11] Heiddegger M., *Saggi e discorsi*. Milano: Mursia, 1991.
- [12] Kahn L., *Conversations with students*. Architecture at Rice n. 26. New York: Princeton Architectural Press, 1998.

²³ L. Carrol (1865), *Le avventure di Alice nel paese delle meraviglie*. It. Edition (2000) Milano: Mondadori.

²⁴ G. Deleuze (1975), *Logica del senso*. Milano: Feltrinelli.

- [13] Lai M., *Arte e creatività*. On, Maria Dolores Picciau (edited by), (2014). *La ricerca della forma assoluta. Itinerari dell'esperienza artistica di Maria Lai*. Cagliari: Condaghes, 2007.
- [14] Musil R., *A che cosa sta lavorando? Colloquio con Robert Musil*. On (edited by) Adolf Frisé (1980). *Diari 1899–1941*, Torino: Einaudi, tomo 2, 1926.
- [15] Nervi P. L., *Costruire correttamente. Caratteristiche e possibilità delle strutture cementizie armate*. Milano: Hoepli, 1965.
- [16] Pizzi D., *Cochiglie ai raggi X*. Mantova: Corraini, 2006.
- [17] Polesello G., *Progetto realizzato*. On VV.AA., Venezia: Marsilio, 1980.
- [18] Rogers E. N., *Gli elementi del fenomeno architettonico*. Napoli: Guida Editori, 1981.
- [19] Sartwell C., *I sei nomi della bellezza: l'esperienza estetica del mondo*. Torino: Einaudi, 2006.
- [20] Simmel G., *Saggi sul paesaggio*. On (edited by) Monica Sassatelli (2006), Roma: Armando Editore, Roma, 1913.
- [21] Thompson D'Arcy W., *On Growth and Form*. Cambridge: Cambridge University Press, 1961.
- [22] Vitruvius, *De architectura*, ca. 1480.