

Lamberto Amistadi
**In what sense architecture is complex:
the role of drawing in architectural design**

Abstract

This essay traces the fundamental relationship between architecture as a discipline and a work of architecture. Architecture and works of architecture are constantly swapping places within a circle, an experience which, over time, has built up and gradually standardized their rapport: works start from the nomenclature of which the discipline is constituted, whose validity is in turn certified by the works built.

The midpoint term which conveys the flow along the (circular) process of architectural design is drawing, in its twofold value of representation and figuration, with that semiotic and notational value with which Leon Battista Alberti exhorted his students to learn to paint as one learns to write.

Keywords

Architectural Composition — Representation — Drawing

The diagram of the central sulcus (or Rolandic Fissure) shows us that among all the functions controlled by the human brain, those of speech and the movement of the hands alone occupy two-thirds of the cerebral cortex. Language and manipulation that changes the state of things, in other words, language and technique, are the most important faculties that humankind has acquired and refined over the course of its evolutionary history. For Roland Barthes (1982), writing (the morpheme) precedes the use of the word (the phoneme). Ernst Gombrich (1978) told us about the magical origin of language, about how for primitive men, in prehistoric times, the drawing of a bison on the walls of a cave was not a representation of the bison, but instead represented the ‘receivable’ of the following day’s hunt. Originally, the depiction of a thing, the symbolic representation and the thing itself were coincident. They coincided until the moment when the naming process assigned a certain name to that particular thing and then, in the evolution of the abstraction process, the objects were grouped into classes according to a certain selection filter.

1. Writing – Architecture

As a discipline, architecture has its own nomenclature. Being history-based, this nomenclature is fixed and stable. So fixed that if one had to grasp the nature of a thing from the metaphorical and instrumental use made of it, it would be impossible to err: the nomenclature has always been used to represent conditions of stability, and at the same time to represent and build these conditions. The example of mnemotechnics is well known as the art of simultaneously remembering as many objects (things or words) as possible and their relationship; Ramon Llull (Rossi 1960) indicated in a work

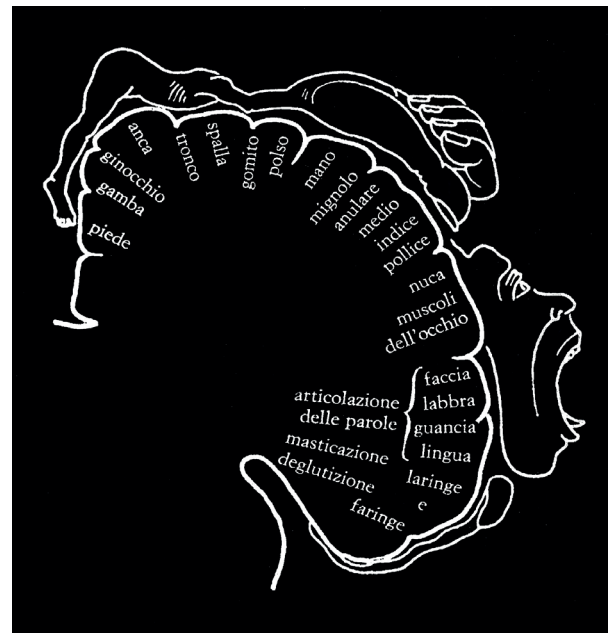


Fig. 1
Diagram of the central sulcus
(Rolandic Fissure).

of architecture (as a sequence of neatly distributed rooms) or in a city part (as an ordered sequence of public places correlated by streets and arcades) the «structura fixa» within whose recognizable places the objects to be remembered are arranged. Retracing these places with the mind, their image associated with that of the objects located within them, will immediately result in them being recollected.

Recalling Aldo Rossi's (1990) definition of architecture as a «fixed scene» in which the events of collective and individual life stand forth, we can already arrange a first order of conclusion: it is possible to run along a double axis or two axes, one in time and one in space.

The axis of time is the one which Cassirer spoke of in 1942 at a conference entitled «Language and Art II». There he explained how, with respect to the process of naming that proceeds by abstraction from the thing to the concept of the thing and evolves to make the semiotic universe in which we live more and more complex, with the risk of moving away from an understanding of the original or producing concepts with no concrete referent, the only people able to regain possession or let us regain possession of an authentic relationship with things are the artists. They behave either like children or like primeval peoples, that is, they are able to travel backwards through the evolutionary process, running backwards along the axis of time of history or along the axis of individual time – for Queneau (1967) – of both general and particular history.

The axis of space is semiotic, and is the one which covers the extension to which the metaphors of architecture as a «structura fixa» for Lull and as a «fixed scene» for Rossi refer. Ramon Lull was one of the precursors of modern formal logic; to him the city or the areas of the city were of interest as a well-ordered relationship between the elements of the parts that constitute it. Aldo Rossi was interested in the city as a set of works of architecture built within the city and that in turn built it: he was interested in monuments as «memorable representations» and therefore as «formed objects».

Whether used to represent abstract relationships between parts or to mount the formed objects in the city, we can enjoy the possibility of moving freely along the axis that extends from the deeper structure to the surface, composing images defined once and for all, or rearranging their syntactic links at a profound level.

Naturally, we cannot be interested in the chronology of the historical evolution or the developments of these two processes, but we can allow ourselves to be simultaneously spontaneous like young children, instinctive like primeval peoples, as sophisticated and distant as a dandy, complex, simple, evolutionary like the Germans, or superficial like the Greeks, «out of profundity!» (Nietzsche 2002).

2. The (super)technique of drawing

We are not interested in insisting on the linguistic condition of architecture, that is, on the fact that architecture is a language, which has its own words and syntax just like a written language, but on the equal and opposite thesis of the architectural nature of language or on its technical nature, and on architecture as the original matrix of this technical nature.

If it is true that, originally, concrete acts preceded abstractions, then the work of the hand that draws with a bison the concept of a bison, if for Wittgenstein (1999) «architecture is a gesture», then it is worth considering the research of an English scholar, Edmund Hussey (1977), who referred the origin of the word “structure” to the Greek word “*harmozein*”, which offers different meanings: fit together, convention, agreement. This word was used for the first time by Homer in the Iliad to indicate the concrete fitting together of the parts in wooden constructions, that is, using carpentry, whose tectonics, for Semper (1992) is art. Or Greimas and Courtes (1986), who observed that discursive know-how is not so very different from the know-how of a shoemaker.

The analogy between architecture and writing, of which architecture seems to be not only a metaphor but also an archetypal reference, is based on the convention which establishes the correspondence between words and things, discipline by discipline. This analogy makes it possible to compose the relationship between words, placing it simultaneously, instantly, magically between the things to which the words refer; Nelson Goodman (1947) spoke of «constructive nominalism».

Unlike other disciplines, however, architecture does so with a greater awareness. This awareness derives from the fact that the process of history underlying this relationship is continually reminded of it by the fact that, by its very nature, it is forced to retrace it afresh each time, to repeat it. In fact, it makes a complete circle around itself, having to return to the phenomenological universe concrete objects, formalized starting from its theoretical apparatus: the parts of architecture that had been transferred into nameable signs having to be reinstated in the form of works of architecture.

This mobile circle, which perpetuates the repetition of the architectural event/work by the work of architecture, each time different and each time fresh, on the one hand strengthens faith in the verisimilitude of the analogy and on the other enhances the tools that this awareness makes available, that is, its productive potential. The enhancement concerns the ability to adumbrate the architectural project, or rather, the ability of the architect to adumbrate the work of architecture in the architectural design process.

An increase in this skill set is based on a correspondence and has a corollary: the correspondence is the one we have already underlined between the thing, the name of the thing, and the representation of the thing, that is, between the thing and the representation of the thing, the thing and the symbol, at various levels, from the deepest to the most superficial; the corollary is that the position of the relationships between things/symbol, that is, architectural design, can be reduced to a process of composition,

to the arrangement of such things/symbols on the undifferentiated field of the drawing sheet.

3. Complexity: an example

As we know, a symbol is a particular representation of a thing. It is a type of representation that refers to its iconic potential (Semerani 2000). The symbol is, in other words, a representation of meaning.

When Denis Cosgrove (1990) spoke of a «symbolic landscape» the first thing he told us was that the landscape is a formed object, but then he also said something about the nature of such a formation: that it is a self-representation, through which a society represents to itself and to others the relationships which give it structure. The reflexive nature of the term indicates the activation of a self-recognition device: the relationships that structure a society which the landscape as a symbol represents and signifies are its common and shared values.

Antonio Monestiroli¹ was correct when he said that it is essential to agree on the goal. The goal should be such as to demonstrate to sceptics the topicality of a piece of architecture, its usefulness. In what way? By exemplifying its specific potential to syncretically represent within a formal construction the values common to a given «linguistic community» (as Gadamer stated, 1985), playing on the extremely subtle limit between evidence of recognizability and planning or prophecy (Picasso's answer when asked why his portrait of Gertrude Stein did not look anything like her applies here: «It doesn't matter, it will look like her»).

The fact is that such a representation must be constructed and this construction must be understood at all levels, logical, semiotic and technical. Let us take an example. In a valley of the Trentino region the population's feeling of belonging to the same cultural community needs to be represented: this feeling is firstly historical, nourished by the collective memory, as a product of the individual memories, both oral and written, of the members of that population. The history that unites them is largely that of an effort to emancipate themselves from the material miseries which the poverty of the soil foisted upon its inhabitants; fatigue, misery, but also creativity and the courage of the protagonists of numerous individual events. At a certain point, this local history was impacted by the events of the Great War, which interwove their universal destiny with the particular one of the shepherds and peasants/soldiers, their women, mothers, wives and girlfriends, the elderly and the young children of the mountains. The literary transcriptions of popular feelings, the real and fictional stories, and the anecdotes became muddled with the minor and major events of the war, which afforded a global face to the grotesque representations that popular legends give of the unpredictability of humankind's destiny.

Like the scars of an individual experience, history marked this territory with traces of the events it produced. This particular territory is scattered with objects of a military nomenclature (the «nomina sunt res» always applies, Semerani 2003): fort, casemate, observation post, bunker, artillery post, trench, tunnel. The task of architecture is to establish original relationships between existing objects: its difficulty and complexity lies in the type of originality, which precipitates within the syncretic relationship between the fact experienced and the reading model. The first reason for complexity concerns the choice of theme or themes. The assumptions of Aldo Rossi (1967) – «We are in favour of 'a-priori' architecture» – or of De Chirico – «The virgin mind is blind» – apply. The method is, once

**Fig. 2**

L. Semerani, *The fortified landscape: places and figures*. Project for the valorisation of the historical-monumental heritage of the Valle del Chiese high lands, 2004.

again and always, «Goethean», that known as «objective fantasy» (Goethe 1807), and belongs to a faculty of the mind, the associative one.

Is there a place in the collective imagination of a set of literary and artistic representations of a given fact, that is, images described and depicted, which contains formal units composed of said sets of named objects? Not directly. However, we can think of the fortress as a war machine and we can then ask – what kind of machine and what kind of war? Of course a machine is a machine and a war is a war, but oddly enough there is literature which associates the machine with war, and especially with the Great War. There are machines with a «spectacular and wonderful effect» that describe war as serving loneliness and death. Or rather, there is an artistic literature which associates the machine with war precisely as a producer of loneliness and death, and of alienation. Such machines are wonders of science and structurally represent the power relations of which they are an expression. The «torture machine» (Szeemann 1989) of Kafka's *In the Penal Colony* has, like other «celibate machines», an upper floor, a place of power and military authority and a lower floor, where the victim, a soldier of the Austro-Hungarian Empire convicted of insubordination, is lying on his stomach while the perfect mechanism of a pantograph transcribes a sentence from the hand of the designer/executioner to the skin of the soldier/victim using a harrow-like device. In «Locus Solus» by Raymond Roussel, the military authority makes use of the prodigious weather calculations of the scientist Canterel.

It is easy to translate the prodigious weather calculations into the mathematics of ballistic true-range multilateration on which the distances and embrasures of the stronghold of Forte Corno were measured. It is more difficult to question the character that this reactivation of signs and meaning should produce. Because if it is true that war machines produced loneliness



Fig. 3

L. Semerani, The fortified landscape. Study design for the setting up of the Fort Corno "Poetic reaction machine", 2004.

and death, it is also true that they are still machines with a «wonderful and spectacular effect», to such an extent that the reproduction of the mechanism has always fascinated children's games. And it is true that the lightness of certain daily occupations can be poetically transcribed: the place from which the messages of the carrier pigeons depart becomes the scene of a poetic-sentimental idyll if hope fills the transcription of the carrier pigeon/dove of peace.

The signs of military nomenclature make up a swathe of (fortified) landscape in which they are confused with and flanked by environmental pre-existences bearing other common nouns (waterfall, stream, cliff, rock) as well as proper nouns (Revegler, Marach, Cavalla, Pur), which refer to further «absences» of reference, to other landscape «clichés» or narrative stereotypes: Hirschfeld (Schepers 1980) classified the landscape according to the nature of the place («*Angenehme, muntere, heitere Gegend und Garten, Sanft melancholische Gegend und Garten, Romantische Gegend und Garten, Feirliche Gegend und Garten*»); Edmund Burke (1757) counted among the elements that characterize the sublimity of a place «the Sounds and the Roar of waterfalls» and among the images of Vastness, the high rocks, the vertical precipices, the rough and broken surfaces. William Kent (1987) gave shape to these literary suggestions by drawing or building them: on the top of the rock delimiting the waterfall stands the temple of the god who personifies it. The caves that populate romantic landscapes are those of a sleeping nymph, rather than the dwelling of the god of the

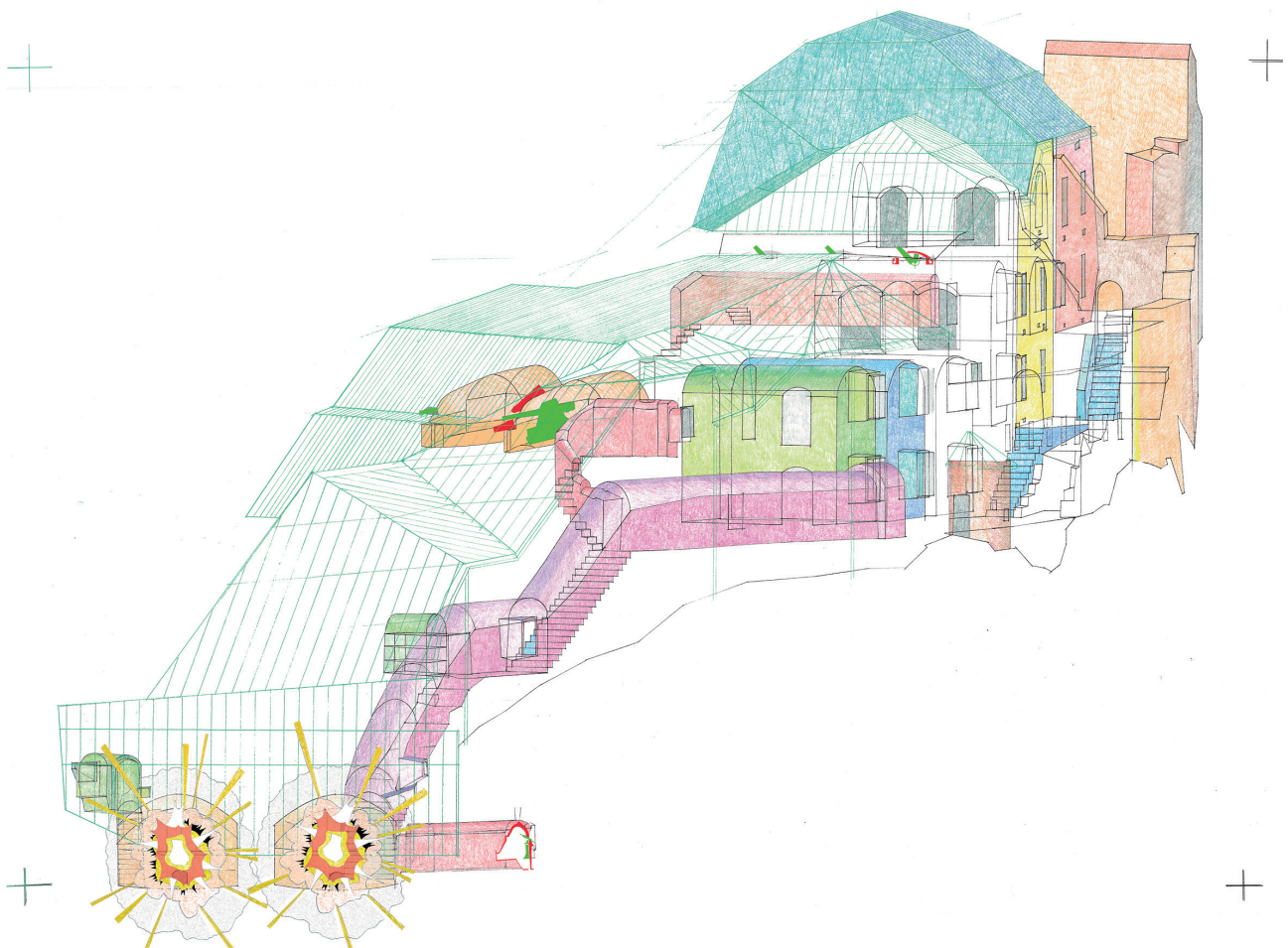


Fig. 4
L. Amistadi, Fort Corno. Simultaneous viewing, 2009.

river that crosses them; if the short imperfect vault of the military tunnel dug on the northern limit of the park becomes a grotesque representation of the end of an initiatory path, the circle then closes: the labours, the adventures, the sufferings of the past exalt in the light of awareness and in the story of the goals that the resoluteness of a common effort and the will to live have been able to draw from the unpredictable and tragic.

However, we do not think, as Marcella Aprile (1993) did, that the landscape of narration is a landscape composed of, or in, fragments, but rather that it indicates, as always, the idea of a succession of independently defined parts. The structure of a narrative will determine the mutual location of the parts or their «interesting distance».

Henry Focillon (1990) spoke of the power of concentration of the hand. Which is also a drawing technique: before sliding your hand over the sheet you must visualize with the eye of the mind the completed image of whatever you need to represent. And this is why I believe that transmissibility is physiognomy: the succession that ranges from the choice of the theme to the determination of the figures that will represent it, to their representation in the correct reciprocal position concerns a narration of the expression, punctuated by wrinkling of the forehead, false starts, the relevance and resoluteness of the gesture, all given rhythm by the suspensions and silences from which the assertions appear by negation. I have always been fascinated by the way in which some artists/intellectuals/architects compose on a blank sheet a list of determinations, in the form of a word or a symbolic figure, and whether it is the design of a conference, rather than a museum installation or a work of architecture, a house, a palace, a city, compact or «wide open spaces», in extension or subsequent.

For me, this is not a graphic fascination, but the fragile and instantaneous appearance of a utopia, its still possible staging. Utopia is already that «Albertian» one of a principle of order or economy, in the sense of Tessenow, but is even better expressed with a touch of melancholy by Ludwig Wittgenstein (1999, p. 27): «Civilization is like a great organization, which indicates to whoever belongs to it the place where he/she can work in the spirit of the whole, and its strength can rightly be measured according to the result obtained by it in the sense of the whole. But in an age, like ours, of non-civilization, the forces are in pieces and the strength of the individual is consumed by opposing forces and frictional resistances, and cannot find expression in the length of the road travelled, but perhaps only in the heat generated by overcoming these resistances. Energy, however, remains energy, and even if the spectacle that this era offers is not that of the becoming of a great work of civilization, in which the best collaborate towards the same grand objective, but the unedifying spectacle of a multitude where the best pursue only private ends, we must never forget that it is not the show which matters most.

And although it is very clear to me that the disappearance of a civilization does not mean the disappearance of human value, but only of certain ways of expressing it, the fact remains that I consider the current of European culture without sympathy, and I cannot understand its ends, if any exist».

Notes

¹ Seminar lecture by Antonio Monestiroli as part of the PhD course in Architectural Composition of the Department of Architectural Design of the IUAV on the occasion of the presentation of his book entitled: *La metopa e il triglifo: nove lezioni di Architettura*. Laterza, Rome 2002.

References

- APRILE M. (1993) – *Dal giardino al paesaggio*. Flaccovio, Palermo.
- BARTHES R. (1982) – *Il grado zero della scrittura*. Einaudi, Turin.
- BURKE E. (1757) – *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*.
- CASSIRER E. (1942) – “Linguaggio e arte II”. In: Id. (1981) – *Simbolo, mito e cultura*. Laterza, Rome-Bari.
- COSGROVE D. (1990) – *Realtà sociali e paesaggio simbolico*. Unicopli, Milan.
- FOCILLON H. (1990) – *Vita delle forme, seguito da Elogio della mano*. Einaudi, Turin.
- GADAMER H. G. (1985) – *Verità e metodo*. Bompiani, Milan.
- GOETHE W. (1807) – “Sollecitazione significativa per una sola parola intelligente”. In: Id. (1983) – *La metamorfosi delle piante*. Guanda, Parma.
- GOMBRICH E. (1978) – *Arte, percezione, realtà*. Einaudi, Turin.
- GOODMAN N., QUINE W. V. (1947) – “Verso un nominalismo costruttivo”. In: Id. (1967) – *La filosofia della matematica*. Laterza, Bari.
- GREIMAS A. J., COURTES J. (1986) – *Semiotica Dizionario ragionato della teoria del linguaggio*. La casa Usher, Florence.
- HUSSEY E. (1977) – *I presocratici*. Mursia, Milan.

- KENT W. (1987) – *Landscape garden designer: an assessment and catalogue of his designs*. A. Zwemmer Ltd, London.
- NIETZSCHE F. (2002) – *La gaia scienza*. UTET, Turin.
- QUENEAU R. (1967) – *I fiori blu*. Einaudi, Turin.
- ROSSI A. (1967) – “Introduzione a Boullée”. In: Id. (1978) – *Scritti scelti sull'architettura e la città, 1956-1972*. Città Studi, Milan.
- ROSSI A. (1990) – *Autobiografia scientifica*. Pratiche, Parma.
- ROSSI P. (1960) – *Clavis Universalis, Arti mnemoniche e logica combinatoria da Lullo a Leibniz*. Ricciardi, Milan.
- SCHEPERS W. (1980) – *Hirschfelds theorie der Gartenkunst*. Werner'sche Verlagsgesellschaft Mbh., Worms.
- SEMERANI L. (2000) – “Il parco metropolitano del nord-est”. In: QUINTELLI C. (edited by), *S.S.9 via Emilia: progetti architettonici e nuovi luoghi lungo la via Emilia tra città e città*. Abitare Segesta, Milan.
- SEMERANI L. (2003) – “Interno veneziano (elogio della sezione)”. In: Quaderno del Dottorato di ricerca in Composizione architettonica del dPa dipartimento di Progettazione architettonica, IUAV, 17, February.
- SEMPER G. (1992) – *Lo stile nelle arti tecniche e tettoniche, o Estetica pratica: manuale per tecnici, artisti e amatori*. Laterza, Rome.
- SZEEMANN H. (1989) – *Le macchine celibi*. Electa, Milan.
- WITTEGENSTEIN L. (1999) – *Osservazioni filosofiche*. Einaudi, Turin.

Lamberto Amistadi is Associate Professor in architectural and urban Design at the Department of Architecture of the Alma Mater Studiorum University of Bologna. He is deputy director of the online scientific journal “FAMagazine” <www.famagazine.it>, devoted to research and projects concerning architecture and the city, and co-director of the series “TECA. Teorie della Composizione architettonica” (Clean). Along with Ildebrando Clemente, he founded and directs the series “SOUNDINGS: Theory and Architectural Openness” (Aión), which has included monographic volumes on John Hejduk and Aldo Rossi. He is author of numerous publications, including the books *Paesaggio come rappresentazione* (Clean, 2008), *La costruzione della città* (Il Poligrafo, 2012), *Architettura e Città* (with Enrico Prandi, FAEdizioni 2016). In 2018 he won a position as Coordinator and Chief Science Officer in the European-level call of Erasmus+ Strategic Partnerships for Higher Education, entitled “ARCHEA Architectural European Medium-Sized City Arrangement” <<https://site.unibo.it/archea/en>>.