

The Architectural Order in the Italian Twentieth Century's reinterpretation. From the canonic principles to serialism: a research for new syntactic combinations.

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Abstract. The architectural order, the analogic transfiguration of the petrification process, represents the unchanging tectonic-expressive icon, resulting from the material and constructive variability of the architecture; a variability today more and more subject to the spectacular advanced visual technologies or to those languages based on the predominant, often misrepresenting, sensorial action. In apparent contrast to these tendencies are those looking for possible new codes, able to respond to the chaotic condition of Babel, that characterizes the contemporary city, experiencing actions aimed at combining the update of the constructive and linguistic codes, with the phenomena induced by a different perception of the architectural landscape. To these theories belong all those trends of research, involved in architecture and the arts, according to a basically pseudoscopic approach; the same that, from Greeks onwards, is the privileged place of narrative function of the building. The domain most concerned by this experimentation, that is delivered to our future, is, of course, the tectonic one of the relationship between point elements, such as columns, pillars and frames. These elements, declined in overlapping, simultaneous or diachronic intersections, may try to compose new potential orders, new potential rhythmic sequences capable of expressing in harmonic phenomena the current almost incomprehensible shapes of our cities and landscapes.

Keywords: pseudoscopic, eurythmy, symmetry, serialism, eidetic geometries.

*“in the best works a fundamental form is repeated
and the particulars form figures similar to that form...
so that harmony results from the repetition of the principal figure in its subdivisions”²*

*“If for the mathematic the number is an abstraction,
for the architect becomes a temple”³*

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2. THIERSCH, 1904.

3. SEVERINI, 1936.

1. *The architectural order as a pseudoscopic field*

There are not constructive-expressive processes that represent better than the continuous wall and its discretization in trilithon, the archetypes of general architectural language. The architectural order, the analogic transfiguration of the petrification process, represents the unchanging tectonic-expressive icon, resulting from the material and constructive variability of the architecture; a variability today more and more subject to spectacular advanced visual technologies, or to those languages based on the predominant, often misrepresenting, sensorial action. In apparent contrast to these tendencies are those looking for possible new codes, able to respond to the chaotic condition of Babel, that characterizes the contemporary city, experiencing actions aimed at combining the update of the constructive and linguistic codes, with the phenomena induced by a different perception of the architectural landscape. To these theories belong all those trends of research involved in architecture and the arts, according to a basically pseudoscopic approach, the same that, from Greeks onwards, is the privileged place of narrative function of the building. Vitruvius, in his treatise, will summarize it in the aesthetic principles of “visual correction” and especially in eurythmy and symmetry, i.e., in the factors necessary to regulate the construction of the main cognitive phenomena, then specifying them in rhythmic structure and its control through geometric and numeric relationships. Therefore, architecture as a synthesis of rhythmic systems, modulated according to a serial/organic process? Vitruvius defines, in fact, *commodulationes* as the system by which the building must be composed to have order and proportion, symmetry and eurhythmy; in other words: *harmony*. That doesn't consist only in the definition of parts in similar or analogue form (symmetry), but also in repetition and in proportionate dis-equalities (eurhythmy) necessary to form inflexions, adjustments, cognitive references, according to the visual processes. And here Luciano Patetta helps us by introducing a necessary, fundamental distinction. «[...] While for the Symmetry is sufficient that both parties correspond in quantity, the Eurythmy introduces the fundamental requirement of adjusting their position. [...] In addition, while the symmetry clearly belongs to the field of rules, i.e. it can be created and transmitted with a series of norms, which, as we

have seen, are based on the “analogy” as a system of proportions, the Eurythmy is transmitted as a cultural fact. It is an aesthetic requirement of a culture and it is based on the sensitivity and the choices of this culture that are unlikely to be reduced to precise standards. If the cultural choice is the Anthropometry as a logical reference, the Eurythmy is obliged to establish a system to carry out its reconstruction in architecture».⁴ This concept finds its main application in the *architectural orders*, which if understood in its phenomenology, are expressed in the repetition of an element and in its consequent extension in figurative modules, “eurythmic” forms, inspired by proportional, optical evaluations, as the ultimate narrative tool of the architecture. According to Daniello Barbaro: «The symmetry is the beauty of the order as the eurithmy is the beauty of the disposition. It is not enough to put in order the measures, one after the other, but it is necessary that those measures have mutual congruence, i.e. in any proportion».⁵ Erwin Panofsky gives us another important clarification about this concept: «The concept of Eurythmy [...] derives from those ‘optical corrections’ which, by increasing or decreasing the size, would be correct from an objective point of view, neutralizing the subjective alterations of the work of ‘art’». One of the most paradigmatic examples in this sense, is the visual reinforcement of angular columns of the peripteral temples, «which otherwise, because of the exposure, would appear more slender than the others».⁶ This principle endorses the argument that proportions and mutual congruence are not sufficient to achieve harmony. It requires elements and proportional relationships, organized on the basis of the visual intuition or through the insertion of corrections, also *by contrast*, to those properly coded. An insertion regarding the *field of the geometrical aesthetics*, that together with the numerical field, represents not only the main control instrument of the architecture, but of its interpretation too. The studies on physiological optics, and the resulting theories on the perception of space, first developed in the 1866 Encyclopedia of Beverley and Garnier, prove their inextricable role not only in

4. PATETTA, 1973. pp. 79.

5. BARBARO, 1584.

6. PANOFSKY, 1962.

the learning of reality but also within the neuronal physiological mechanisms leading to a correct interpretation of structure and meaning of the forms. Optical corrections are so technical tools needed to understand the expressive truth of the forms, which otherwise could be suppressed by the apparent tangibility of the matter.

1.1 Planned “errors” as visual correctives (or eurythmy)

Programmed “errors” of the composition, derived from Vitruvius’ theories to produce corrective effects, such as deformations, constrictions or amplifications of elements or of visual perspective, were important in Medieval times, then again in the Mannerism, and especially in the Baroque era, that had made the tensions arising from its curved lines as the language of the crisis produced by the Counter-Reformation. The architectural order had become, once again, the main element of the investigation, giving rise to a complex system of architectural reform intended to produce new combinations, especially new configurations no longer strictly consistent with original codes, but “derogating” in empathy with the new aesthetic-visual feelings. The controversy with Gian Lorenzo Bernini on the Colonnade of St. Peter, triggered by the Abbot from Madrid Juan Caramuel y Lobkowitz – author of the oblique architecture – had found on such subjects, indeed, his maximum tension. On the one hand, the ellipsoidal column configuration, proposed by Caramuel as a compensation of the effect of “crushing” of the shaft caused by the perspective cone; on the other hand, the Bernini’s reply, based on the gradual increasing of the base diameter of the Colonnade in relation to the visual depth. This condition will produce one of the most extraordinary expressive-methodological updates in the history of architecture. The answer given by Bernini, responding to a cognitive necessity, appeared as syntactic heretical combination caused from the use of the Colonnade’s Doric order, with a progressive increase of the shaft diameter according to the perspective, and its crowning magnified following a vaguely Ionian order, fit to mediate the two different sizes. By varying the base diameter of the various hemicycles, i.e. varying the series within its same stylistic code, the curves between inside and outside not only appeared equivalent, but helped to perceive a greater external “closure”, providing the concavity with a more

homogeneous and embracing character. The tangible reality, suffering in this way a visual correction, helped the perception to precisely interpret the truth of the phenomenal message, its spatial quality. What was common to the two great architects – Caramuel and Bernini – was then a hypothesis similar to that expressed in the First century BC by Geminus, in *Heronis definitiones*, namely: «The purpose of the architect is to make the work of apparently pleasant lines and to find, as far as possible, the remedies against the deceptions of sight, taking care not to equality and eurhythmy according to reality, but according the view».

2. *The Italian XXth century: between simplification of codes and new possible syntaxes*

From here onwards, the resumption of canonical principles will serve not only as a statement of historical continuity, but mainly as a place to experiment with new forms, new measures and expressive combinations. Periodicity, series, sequence, developed in music and mathematics and received from architecture, will revisit the archetypal forms and methods, creating difficulties to the same classical conception of *order* and the subsequent formal unit of its organizational statutes. It is a sentiment meant to last for almost two centuries, affecting Neoclassicism and XXth century (Novecento); periods in which the architecture will be forced to deal with new materials and new building techniques. To put in crisis and to some extent stimulate the new concept is now a different notion of *concinntitas*, interpreted not more as organic unity between language and building system, but as a mystification of the new technical language in order to import and re-interpret the original codes. This issue will mostly deal with the necessary disciplinary renewal and its problematic comparison with the Tradition. A renewal that must also deal with the disasters of the country in the aftermath of the First World War and with the complex geography of languages that historically configure it: the Northern one, represented by the elastic-wooden declinations, predominantly in Milan and Como, and the Central/Southern one, ruled by the massive grandiosity imposed by the Roman school, with the Marcello Piacentini's mediation. Scenarios that the Fascist Regime, just come to power, will try to homologate under a proclaimed return to order, chosen as a never



Fig.1. Marc-Antoine Laugier, *Essai sur l'architecture* (1753), frontispiece.

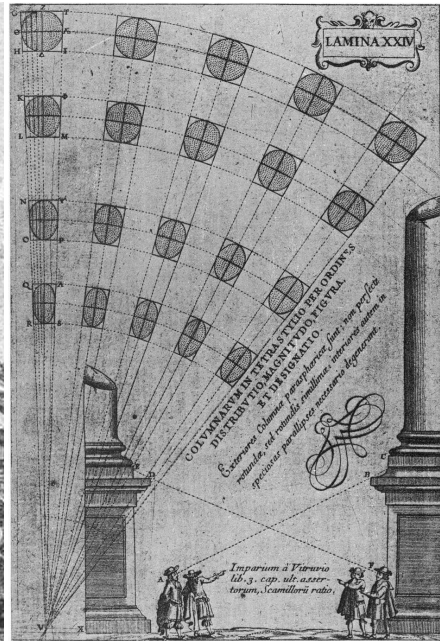


Fig.2. Caramuel-Bernini controversy.

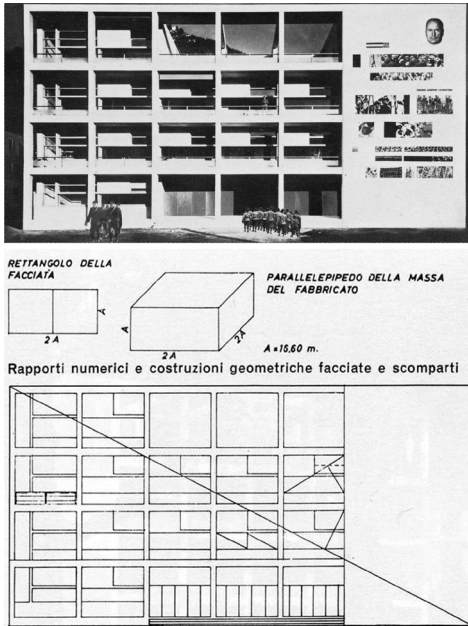


Fig.3. Giuseppe Terragni, *Casa del Fascio* in Como.

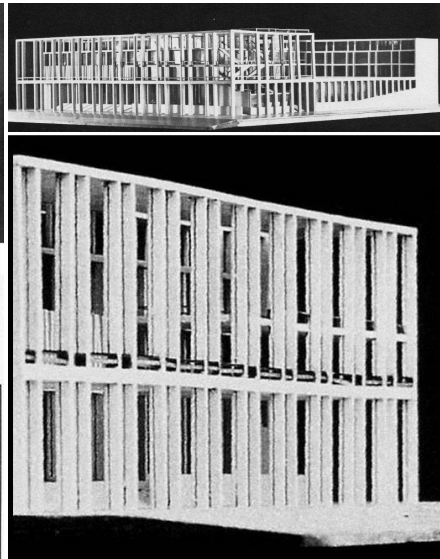


Fig.4. Giuseppe Terragni, the double peripteral order of the project of Palazzo dei Congressi in E42, Rome.



Fig. 5. Marcello Piacentini, Piacentini, the "fragment" of giant order of the building's corner in Via Bisolati, Rome.



Fig. 6. Architectural Orders of EUR 42 in Rome.

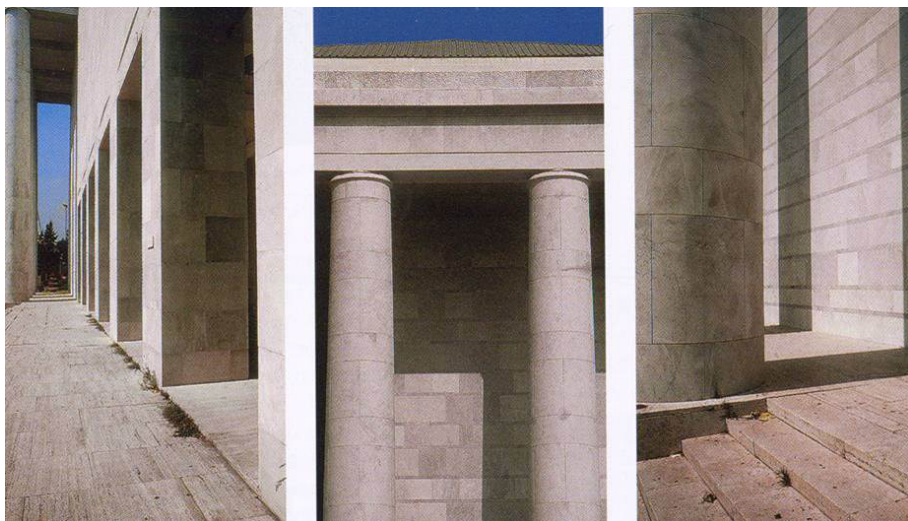


Fig. 7. F. Fariello, S. Muratori, L. Quaroni, details of the colonnade of the E42 Piazza Imperiale, Rome.



Fig.8. Architectural orders of E42, Rome (from a photo of P. D'Amico).

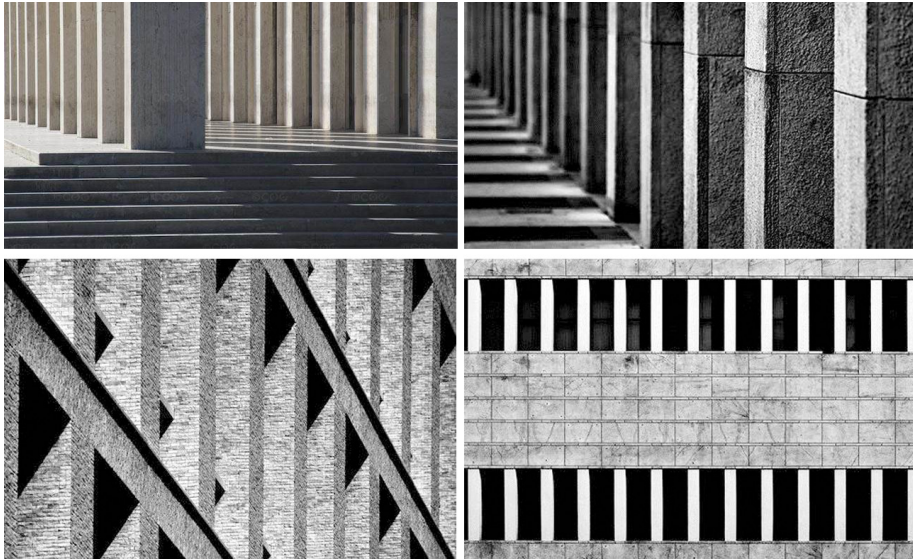


Fig. 9. Architectural orders of E42, Rome (from a photo of P. D'Amico).

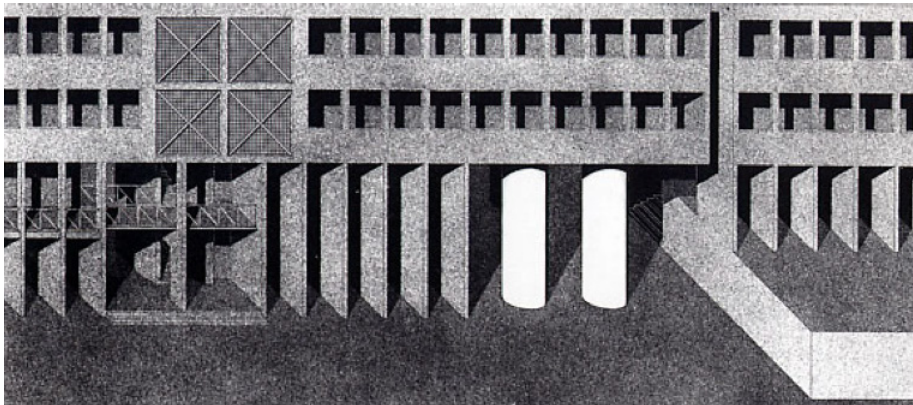


Fig. 10. Aldo Rossi, drawing for Gallarate building, Milano.



Fig. 10a. Aldo Rossi, the arcade of Gallarate building, Milano.



Fig. 11. Giorgio Grassi, project for the Student house, Chieti.

identified national language. Although celebrated by some cultural feelings, such as Metaphysics, and by some artistic groups, such as *Valori Plastici* and *Novecento*, the architectural order will become the beloved field of the Italian architectural experimentation, giving, in two decades, its style to the “new city”. This style, defined by the serial use of architectural elements (such as rhythmic sequences of arches, pilasters, columns, pillars), will remodel the perspectives of new large urban axes. These complex rhythmic sequences that are going to characterize, from now on, the cities of the reconstruction, will be the outcome of a reinterpretation of the order which will have, as its general character, on the one hand, the rigorous recovery of its code, and, on the other hand, the dialectic hybrid duplicity, due to attempting to review the laws and proportions following the “reductionist” spirit. This approach found in the tectonic characteristics of the new materials (the reinforced concrete, mostly) the possibility of beginning that process of “stripping down” of the decorative apparatus, necessary to free the architecture from each superficial element. It is in this step that enrolls the interpretation (unique in the international architectural panorama), made by Giuseppe Terragni in the project for the *Casa del Fascio* in Como, on the subject of reinforced concrete frame as a potential transfiguration of *trilith*. Analogue figure of the original classical language, the *trilith* is hired by Terragni as a potential expressive system apt to “archetype” the new-tectonic language of modernity, transmitting the *ideal* of Antiquity in the forms of Rationalism. A consciously irresolvable transfer, but that ends up representing the very same Terragni’s language, aimed, in fact, to create a sort of cognitive estrangement, through which new syntactic alliances emerge; as the Vitruvian *commodulatio*, that is the concept of order as modularity, indicated by the great Roman author of *De Architectura* in the third Book, that Terragni will translate and define in the perfect geometry of the tectonic syntax of structural “span”. Using a reflection of O.M. Ungers on the concept of order, related by Riccardo Florio in the Treccani Encyclopedia, it is a matter of theoretical methodological approach that points to consider the architectural order, not as “a pleasant manifestation just in its outward appearance”, but as «manifestations of interacting ideas or archetypes, which perfectly

correspond».⁷ Interaction of ideas and archetypes that ends up taking away from the architectural order his metaphysics absoluteness, to deliver it to the immanence of the Present, of the new *Zeitgeist*. The intervention of Marcello Piacentini, in the building at the corner between Barberini and Bissolati avenues in Rome, will constitute in this sense a paradigmatic example of this approach. The dominant theme is the giant order “simplified” – typical of Piacentini’s language – that finds its *commodulatio* in the relationship between the long brick pilasters, and the indentations due to the panels that frame the high windows; a “scale” destined to find its measure in the dilated urban sequence, within which a series of perceptive phenomena develop, such as those caused, on the one hand, by the perspective contraction generated by the slight concavity of the building, on the other hand, by the height reduction impressed by the significant descent of the road. These conditions amplify the strong rhythmic tension that characterizes the trilithic syntax of the building, resulting in its monumental, albeit narrow head, that alludes to the relation between giant and minor order of the near Michelangelo’s buildings in Campidoglio. A quotation that Piacentini suggest again in a sort of *non-finite*, of *objet trouvé*, given by the tectonic-syntactic incompleteness of the minor-order frames of the upper cornices, inside the giant order represented by the large pilasters of the angular cornerstones. Piacentini’s goal is clear: he aims to hold a dialogue with memory, using its “remnants” as *incipit* to foreshadow a new syntax, based on the secular historical principles, and hence a possible contamination with other languages. Rather than proceeding by ideal anastylosis, Piacentini seems to apply the principles of “remnant aesthetics” theorized by Heinrich Wölfflin, delivering the building to the general dialogue with the archaeological scenario in Rome. And in Rome, again through a Piacentini’s program, the simplification process of architectural order, will find, in the solemn and problematic dimension of the rising national language, its greatest testing place, notwithstanding the different approaches: the EUR. The constant, albeit in diversified propositions and

7. FLORIO, 2012.

dispositions, are in fact the *trilith* and the *column* that, taken as a real morphemes of the general architectural program, will characterize the overall urban semantics, according to a serialization of the architectural fronts. The interpretations of the order in various forms, such as that of extroversion from the façade, or the adherence resulting from the reduction of the locking wall, are arranged according to the tectonic principles of the giant order and the overlapping of the orders. These strategies will result here in rhythmic frames, in which even the lighter variations will take the sense of a changing sequence of the same architecture, giving a new meaning to the general urban system. It is a kind of “pre-serial” approach, not yet the debtor of the serialism, that from the late 50’s, will open a season of profound stylistic changes, within which the column, and the very concept of *order* will take on the role of an experiment, aimed, this time, to break its own rules and to find new linguistic forms.

2.2 *The contribution of the serialism to the search for new representations based on the rhythmic dispositio*

It is in the mid XXth century that we see the development of *integral serialism* and within it – as Markus Bandur reminds – the architectural approaching to the theories derived from the linguistic, and especially musical structuralism: «Serialism reconciles the two Arts [music and architecture] proposing a research system based on an abstract matrix, intelligible before than sensitive, within which it is possible to list items in different classes, and then explore all the possible interactions in an anti-repetitive way.»⁸ Pythagoras’ idea according to which “all is number” is now translated in a search in which the technic component is associated to the sensory one in rigorous “eidetic geometries”, considered to be able to develop a mainly aesthetic value from the compositional control and process. In architecture, the main areas of research in this sense, become, on the one hand, the historicist one, intended to resume the order, but deviating from its strict principles in favour of the figurative freedom, and, on the other

8. BANDUR, 2003.

hand, the neo-structuralist and later deconstructivist area, interested in experimenting its codes within a language derogating from the same Modernity.

The figures most interested in this investigation are Aldo Rossi, Giorgio Grassi, Antonio Monestiroli and in general the *Tendenza*, the GRAU, and Franco Purini. Located at the boundary between the theories from the world of integral serialism, and the seriality that characterizes the components of the new technological *firmitas*, the architectural order becomes for the Isola Liri Master, one of the major “shapes” of experimentation, resulting in new potential orders, having as a common requirement, the condition of Wölfflin’s fragmentation: a very metaphor of the cultural and existential crisis of our time. In the Purini’s projects for a *Pavilion into Concrete and Glass*, for the *Cinque piazze a Gibellina*, or in various drawings, such as *Architectural orders*, of 1992, working with simplification of the element and then with subsequent translations and cancellations within the series, the architectural order, regarded as a “pillar”, ends up finding new metrics, new rhythms and significations, compared to the original codes. The stated objective is to organize “regulating” structures composed by few repeatable elements, and then to introduce variational *incipit*, preordained errors, developing new harmonic possibilities according to a process, if possible infinite, such as to cause that the order or the serial structure is never closed but opens to further variations. «[...] the intention of the project is indeed the will to demonstrate the compatibility between error and rigor, between order and disorder [...] the idea that ties together the references and the project is to consider the classical temple as a principle of architecture».⁹ The Italian trial will open up a real new trend of research that will influence the international culture, re-attaching it to its logic antecedents, the same that we tried to draw, albeit in an extremely partial and synthetic form, in this dissertation. A search capable, even with the inevitable loss of “unity of principles”, to produce new governing “theorems”, and with them, new kinds of *eurythmies*, namely new metric and cognitive

9. PURINI 1980, pp. 189-191.

significations, in the hope of being able to relate the architectural principles to the uncertain physical scenery of our architectures and cities. The domain most concerned by this experimentation, that is delivered to our future, is, of course, the tectonic one of the relationship between point elements, such as columns, pillars and frames. These elements, declined in overlapping, concurrent or diachronic intersections, may try to compose new potential *orders*, having, as their main syntactic feature, the dialectic between different elements; and as their reflection, a complex spatial quality, the asymmetry and the “critical gap” between the elements themselves. The ultimate goal, in fact, should be, or could be, to be able to trace *rhythmic sequences* capable of transforming in harmonic phenomena the current almost incomprehensible shapes of our cities and landscapes.

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Fig.12. Antonio Monestirolì, trilith system for a façade project, Pescara.

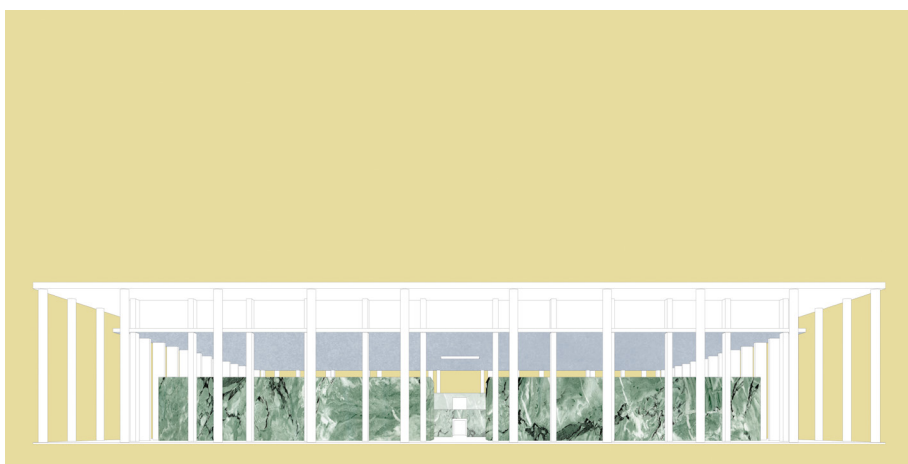


Fig.13. Antonio Monestirolì, project for the New Provincial Library, Pescara.



Fig.14. Franco Purini, the "peripteral" of the project for the "Concrete and Glass Pavilion".



Fig. 15. Franco Purini, "Architectural Orders", drawing, 1990.