Conceiving the “deep city”: the teaching of Aldo Rossi

“In the utilization of the bodies of the old cities, there is at once an economic an a psychological rationale. They become both a positive value and a point of reference.”

Aldo Rossi, The architecture of the city, chapter II, p. 95

What is the image of the sustainable city? A google search results in a long list of green and technologic eco-buildings, eco-neighbourhoods or even eco-cities. Most of the time the images are perspective rendering showing us an ideal tomorrow. As Kalliopi Fouseki, Torgrim Sneve Gutormsen, Grete Swensen, who organise this session, rightly observe that there is no real space for heritage in the existing models of the sustainable city, such as the “smart city” or the “green city”, all of which are only focused on the present and the future.

This criticism is shared by the architect-urbanist Albert Levy (Levy, 2009) who studied the historical links between urbanism and health:

“Essentially determined by environmental criteria and quantitative indicators, a technical and managing urbanism, with a scientific and normative nature is looming behind the doctrine of the "sustainable city". It invests the urbanistic practice, with the danger to reduce urban issues to exclusively physical and environmental aspects, raising the problem of the sense and the definition of the city. [...] It seems, with the “sustainable city”, that we are, once again confronted to the birth of another great narrative about the city, a narrative with universal pretention...”

Levy obviously refers to “hygienism”, the previous great narrative. It emerged in the beginning of the 20th century and after the Second World War led to massive destruction of ancient urban neighborhoods that were considered unhealthy and replaced by modern collective housing units. It is worth to follow him in that comparison and to note that the so called “Grands ensembles” are nowadays often beeing replaced by eco-neighbourhoods. The same process can be observed for office buildings. One can say that energetic deficiency is the new insalubrity. Although less violent than in the fifties and the sixties, because of patrimonial regulation and a slower growth, in European countries a kind of silent and diffuse “tabula rasa” process is still at work reducing reusable artefacts to rubbles. Sustainability, with all its eco-labels, is often waved as an argument for demolition-reconstruction rather than rehabilitation.

To participate to the definition of the “deep city” as proposed by the organisators of this session ("a concept which refers to a city's long-term history and heritage"). I propose looking back to one of the main criticism of modern urbanism, the one led by the Italian architectural movement Tendenza in the sixties. In a first part I will present the urban theory of that movement, developing Aldo Rossi’s “theory of permanences” which regarded urban heritage as an element of the urban dynamic, as a driver of change (Rossi, 1966). Then I will explain how historical structures and in particular monuments were considered by the Italian architect as a theater of the collective memory. This statement will lead me to define his architectural theory as a process of representation, a play with memory. Finally I will take an attempt in discussing how that conception could be be related to the present, outlining the recent urban research of Paola Vigano (Fabian, 2012) about "embodied energy" and a series of architectural projects proposing a new aesthetic of memory.

The theory of permanences

In the second chapter of « The architecture of the city » (Rossi, 1966), the Italian architect Aldo Rossi, quoting the historian Henri Pirenne, elaborates on the urban renewal that took place in Europe in the 12th century, reusing the urban structure inherited from the Roman empire. He concludes with this general statement that could summarize his vision of the city:

“In the utilization of the bodies of the old cities, there is at once an economic and a psychological rationale. They become both a positive value and a point of reference.”

Indeed, for Aldo Rossi, the city, and the elements that compose it, are artifacts that combine economic and material aspects with symbolic and immaterial values related to their history, and the architect’s task is to deal with both of them. His famous book, first published in 1966, offers a reading of the city in its temporal depth that constitutes a radical shift from the functionalist doctrine of “tabula rasa” developed by the International Congress of Modern Architecture in the 1930ies. The “architecture of the city” became quickly a major piece of the theoretical turn engaged by the Italian architectural movement “Tendenza”, whose members developed in the 1960ies a renewed interest for the historical city and architectural heritage in the 1960ies.

Aldo Rossi takes up the work of the French historians of urbanism Marcel Poëte and Pierre Lavedan who were interested in the “persistences” that can be observed in the cities and tried to identify their “generative elements”:

“These persistences are revealed through monuments, the physical signs of the past, as well as through the persistence of a city’s basic layout and plans. This last point is Poëte’s most important discovery. Cities tend to remain on their axes of development, maintaining the position of their original layout and growing according to the direction and meaning of their older artifacts, which often appear remote from present-day ones. Sometimes these artifacts persist virtually unchanged, endowed with a continuous vitality; other times they exhaust themselves, and then only the permanence of their form, their physical sign, their locus remains. The most meaningful permanences are those provided by the street and the plan.”

This theory of permanences is Aldo Rossi’s main argument against the functionalist city that advocated the adequation of form to function and thus the obsolescence of urban structure. For him, the city is to be thought in its historical depth as “something that persists through its transformations”; “the complex or simple transformations of functions that it gradually undergoes are [only] moments in the reality of its structure.”

Further in the analysis, the author explains how these permanences, which he calls « primary elements », becomes agent of change:

“Primary elements are not only monuments, just as they are not only fixed activities; in a general sense they are those elements capable of accelerating [but also sometimes retarding] the process of urbanization in a city, and they also characterize the processes of spatial transformation in an area larger than the city. Often they act as catalysts.”

According to Rossi, the evolution of the city can then be defined as a dialectic between these “primary elements” and areas of transformations composed mainly by housing facilities. Monuments such as the “fixed point of urban dynamics” play a fundamental role.

One example of these primary elements presented by Aldo Rossi are the roman Amphitheaters of Nîmes and Arles in the south of France. After the fall of the Roman empire, they were transformed by the Wisigoths into fortresses sheltering only

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Footnotes:


4. ADV, p. 59

5. ADV, p. 55-56

6. ADV, p. 87

7. “Images, engravings, and photographs of these disemboviwed, record this vision. Destruction and demolition, expropriation and rapid changes in use and as a result of speculation and obsolescence, are the most recognizable signs of urban dynamics. But beyond all else the images suggest the interrupted destiny of the individual, of his often sad and difficult participation in the destiny of the collective. This vision in its entirety seems to be reflected with a quality of permanence in urban monuments. Monuments, signs of the collective ill as expressed through the principles of architecture, offer themselves as primary elements, fixed points in the urban dynamics.” ADV p. 22 // “The monument has permanence because it already exists in a dialectical position within urban development; it is understood in the city as something that arises either at a single point in the city or in an area of the city. In the first case, that of primary elements, the ultimate form is most important; in the second, the residential district, the nature of the land seems to be most important.” ADV, p. 92
2000 inhabitants, as far as Nîmes is concerned, while at the same time other amphitheaters such as the Coliseum in Rome were transformed into stone quarries. The amphitheaters of Nîmes and Arles became, then, “cores of aggregation” for the redeployment of those cities at the end of medieval time.

The persistence of the Roman “primary elements” in European cities (amphitheaters but also roads) could be explained mainly by an economic and strategic rationale. Nevertheless, Aldo Rossi’s urban model is not just a materialistic one, and I will now focus on the psychological rationale of his vision.

The city as theater of the collective memory

In the very first pages of “the architecture of the city”, Aldo Rossi replaces architecture and the city in an anthropological perspective that was developed since the 19th century by historians such as Numa Denis Fustel de Coulanges, Theodor Mommsen, or Jacob Burckhardt and further developed in the 20th century by the new disciplines of sociology and anthropology. They offer a complex reading of human establishments that links the material to social structures, and real space to imaginary space. Aldo Rossi in particular refers to Claude Levi Strauss who viewed the city as a work of art:

“Cities have often been likened to symphonies and poems, and the comparison seems to me a perfectly natural one: they are, in fact, objects of the same kind. The city may even be rated higher, since it stands at the point where Nature and artifice meet…. It is both natural object and a thing to be cultivated … something lived and something dreamed; it is the human invention, par excellence.”

From his anthropological references, Aldo Rossi brings out the following fundamental structure for the interpretation of built space, the trio ritual – myth – locus. To him, “the importance of ritual in its collective nature and its essential character as an element for preserving myth constitutes a key to understanding the meaning of monuments and, moreover, the implications of the founding of the city and of the transmission of ideas in an urban context.”

As an illustration for this concept, Rossi uses the Catholic iconography of pilgrimage and processions. For example, on a drawing of Antonio Lafreri representing the seven churches of Rome, space is travelled up and down by processions of pilgrims going from one church to another, visiting the consecrated loci where they can worship the statues of saints and thus, by this ritual, maintaining their legend, their myth. To generalize this specific religious conception of space, Rossi then appeals to Maurice Halbwachs’ theory of the collective memory:

“As Halbwachs writes in La Mémoire Collective, “When a group is introduced into a part of space, it transforms it to its image, but at the same time, it yields and adapts itself to certain material things which resist it. It encloses itself in the framework that is constructed. The image of the exterior environment and the stable relationships that it maintains with it pass into the realm of the idea that it has of itself.”

Rossi follows:

“One can say that the city itself is the collective memory of its people, and like memory it is associated with objects and places. The city is the locus of the collective memory. This relationship between the locus and the citizenry then becomes the city’s predominant image, both of architecture and landscape, and as certain artifacts become part of its memory, new ones emerge. In this entirely positive sense great ideas flow through the history of the city and give shape to it.”

To summarize, we might say that for the Italian architect, the city is a theater of the collective memory, combining two of his leitmotives.

Playing with memory

With this starting point, considering the city as an historic body, the permanences, the shapes that persist in the human environment become the elements to play with for the architect. This is the basis of the theory of “analogical architecture” Aldo Rossi tried to develop during his career, although he never really completed, as recently exposed by Jean-Pierre Chupin (Chupin, 2007). Interpreting a definition of Carl Gustav Jung about analogical thought, Rossi indeed developed his own

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9 Claude Lévi-Strauss (1955), Tristes Tropiques, London: Hutchinson & Co, 1961 - the quote is from part XIII
10 ADV, p. 24
11 Maurice Halbwachs, The collective memory… cited in ADV, p. 130
12 ADV, p. 130
sense of history "conceived not simply as fact, but rather as a series of things, of affective objects to be used by the memory of a design."\(^{13}\)

Looking at one of his project, the "Teatrino Scientifico" or "Little Scientific Theater", I will try to explain this conception of the architectural project.

The Teatrino Scientifico is a miniature theater conceived in 1978 by Aldo Rossi for an art gallery, with the help of Gianni Braghieri and Roberto Fresco, recalling the great tradition of puppet theater lasting in Lombardy since the XVIIIth century. Nevertheless the Teatrino is not an ordinary toy intended for the staging of children's fictions, but rather a metaphorical device of conception. Aldo Rossi designed three different stage sets for the Teatrino, but he also did a lot of drawings from 1978 to 1983. Here we find his almost entire formal universe, which he repeated his career long: some of his projects like the Gallaratese housing building or the Modena cemetery, some historic buildings like the Pisa baptistry or the hand of the statue of San Carlo Borromeo, and some familiar objects, such as his famous coffee pot, an angel, a table with a tablecloth, among others.

As Rafael Moneo has remarked, the teatrino can be regarded as a new kind of “theater of memory”.\(^{14}\) All these objects are indeed the one that were memorized by Aldo Rossi and that punctuate his Scientific Autobiography. In this book, Aldo Rossi explains with regards to the functioning of his memory and his ability to remember shapes and places rather than people or events. For him, “each place is remembered to the extent that it becomes a place of affection, or that we identify with it.”\(^ {15}\) Emotional observation is thus the starting point of his design process. In another passage, he indeed explains that all the things he has observed becomes transformed into memory and that he sees them “arranged like tools in a neat row” or “aligned as in a botanical chart, or a catalogue, or a dictionary”.\(^ {16}\)

The stage of the Teatrino could then be interpreted as the space of representation of “this catalog, lying somewhere between imagination and memory”. It is the “artisan’s or scientist’s work-table”.\(^ {17}\) A scientist who moves from dissecting the human body, such as in the anatomical theater of Padua, – one of the references for this project – to conquering his memory and own imagination. An artisan who arranges and analyses the material based on which he will create a new object, - for Rossi the images of his memory.

A rossian project starts then with what might be called an analogical drift, comparable with the automatic writing of the Surrealists\(^ {18}\). For example, the design of the Teatrino itself started with a first shape that Rossi associated to the program. It is the shape of the cabins of Elba, that Rossi has drawn in 1975, three years earlier. In his Scientific Autobiography, Aldo Rossi assumes a lot of other references for this project. Though it is a \textit{a posteriori} description, the way Rossi writes, drifting in a chaotic way from a memory to another, can be similar to the way his mind functions in a design phases. His sketches are keeping the tracks of this analogical drift, one shape calling another, which is rapidly drawn alongside or superimposed to the first one. In a way, a stage set of the Teatrino represents that pictural and emotional universe which characterize each of his project\(^ {19}\).

This playing in the Teatrino Scientifico, associating images of his own memory, might be regarded as a narcissist and solitary playing, where, as Rafael Moneo described it, the architect may "build the reality on stage on the same scale as their desires."\(^ {20}\) But in fact it is only representing the first round of an indirect playing between the conceptor and the spectator. As Rossi explains: “ Perhaps a design is merely the space where the analogies in their identification with things once again


\(^ {14}\) AS, p. 41

\(^ {15}\) AS, p. 23

\(^ {16}\) AS, p. 33

\(^ {18}\) Rossi does’nt develop much his interest for the Surrealists works in his Scientific Autobiography, though, in an interview for AMC in 1976, Rossi evokes the poetic of André Breton as a reference. ‘Entretien avec Aldo Rossi’ (Milan, avril 1976), AMC, n. 40, septembre 1976, pp. 76-81

\(^ {19}\) “In recent projects, I have pursued these limitless analogies: the hut-like buildings for student housing at Chieti, the drawings of the cabins of Elba, the palm trees and the houses at Seville were all pieces of a system which were assembled inside the Little Scientific Theater.” AS, p. 30

\(^ {20}\) “ Cabría el pensar que la la máquina milanesa » - « il teatrino scientifico » - se ha inventado para consuelo de arquitectos ociosos, dando así la posibilidad a los mismos de construir la realidad en la escena a la medida de sus deseos »
arrive at silence. A design pursues this fabric of connections, memories, images, yet knowing that in the end it will have to be definitive about this or that solution. [...] on the other hand, the original, whether it is true or presumed state, will be an obscure object which is identified with its copy.” (Rossi, 1981: 35) At the end of the analogical drift, the new project throws back all references in the shade. However, they remain virtually present through the type25 which allows the spectator to start himself an analogical drift, differing from the one of Rossi, because it depends on his own personal experience and memory.

After having reminded Aldo Rossi theories, it seems that in his conception of the “deep city”, it is mainly the psychological factor that was developed throughout his career. Playing with the immaterial images of the inherited city is indeed a way to characterize the post-modern movement in architecture, from which he became an influent figure. The patrimonialization of Italian, resulting partly of the renewed interest on historical heritage developed by the architects of the Tendenza, was also mainly a question of image rather than an economic necessity. The most perfect example being the disneyland-like becoming of Venice.

The architecture of Aldo Rossi was often criticized as a “paper architecture” neglecting the material dimension of space. But his theories and methods are still relevant and worldwide used. However I would like now to show how sustainable problematics may give a new dimension to heritage bringing back the focus on materiality.

**Life cycles and embodied energy – going back to materiality**

Among the most recent research developed in France on the “sustainable city”, is the the Interdisciplinary Research Program “Ignis Mutat Res: Looking at architecture, the city and the landscape through the prism of energy”22. The Italian architect and urbanist Paola Viganò, leading the IUAV research group, proposes a study on two territories, the Parisian Region and the diffuse city of Veneto, using the concepts of “embodied energy” and “life cycles”. Some of the results are published in the book “Recycling city, Lifecycles, Embodied Energy, Inclusion” (Fabian, 2012) which relates an intensive Program in Urbanism and Urban Design held at the IUAV University in the context of this research23.

Whereas most researches on sustainability focus on the energy buildings will consume in the future, the IUAV research group decided to work on the embodied energy, i.e. the energy that is used to create a built artefact and that remains as an heritage in any built environment. More precisely, it is the total energy necessary for an entire product life-cycle, including raw material extraction, transport, manufacture, assembly, installation, disassembly, deconstruction and/or decomposition as well as human and secondary resources.24

As Paola Viganò points out, the calculation of the embodied energy contained in building materials has been a research subject since the 1970s. And already in the 1980s researchers found that the act of preservation could become an instrument in energy policies25. The originality of the research led by Paola Viganò is to apply the concept of embodied energy to a territorial scale. Thus, for her, “each cycle [of the urban fabric] produces its own space, through rationalization

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23 Quatremère de Quincy: “The word ‘type’ presents less the image of a thing to copy or imitate completely than the idea of an element which ought itself to serve as a rule for the model.” [...] The model, as understood in the practical execution of the art, is an object that should be repeated as it is; the type, on the contrary, is an object after which each [artist] can conceive works of art that may have no resemblance. All is precise and given in the model; all is more or less vague in the type.”

22 This research program was led from 2011 to 2015 by the French Ministries of Culture and Communication (MCC), of Ecology, Sustainable Development and Energy (MEDDE), the International Greater Paris Atelier (AIGP).

24 “Recycling city, Lifecycles, Embodied Energy, Inclusion” is the title of the Lifelong Learning Programme held at the IUAV University (Venice 29th June-9th July 2012), an intensive Programme in Urbanism and Urban Design that had as its objective to produce innovative thinking on contemporary urban planning, starting from the theme of the recycling, regeneration and recovery of the diffuse city of the Veneto region. The goal of the Intensive Programme has been the construction of a “100% recycling” scenario, exploring the potential, in terms of space and of architecture of the city, of a transformation that reuses and recycles the existing to the full.” FABIAN p.9

25 Definition wikipedia : Embodied energy is an accounting method which aims to find the sum total of the energy necessary for an entire product life-cycle. Determining what constitutes this life-cycle includes assessing the relevance and extent of energy into raw material extraction, transport, manufacture, assembly, installation, disassembly, deconstruction and/or decomposition as well as human and secondary resources. Different methodologies produces different understandings of the scale and scope of application and the type of energy embodied.
processes, technological shifts, led by new and different habits and practices.” She proposes “to look at this immense spatial accumulation and stratification in our urban territories as “embodied energy”.26

The IUAV research group established several maps representing the “the energy “trapped” in the body of the territory”, which was calculated from the map of land use featuring four indicators: material energy costs, manufacturing energy, ease of recycling, lifespan. Complementary to this mapping process, Paola Viganò stresses the importance of reconstructing “the long history of territorial construction, its rationalizations and to evaluate the “immense deposit of [human] labor”.27

She proposes a global approach on urban life cycles, focusing not only on brownfields, but also on grey and greenfields. “All space that has been produced and embodies labor – that is energy”. To her, any built space should be considered as a “capital.”28 With such a cartography, the end of a lifecycle is not synonym to a new blank page, but to a process of reorganization of this capital which affects not only the material parts of the city but also its social and political dimensions29. And as a designer of urban project, she stresses the utility of design, that can be “a formidable tool in showing the possible relations among an heterogeneous mass of materials once connected by a clear rationality and today deprived of a reason to stay together.”30

The work of Paola Viganò can be read in the continuity of the Italian tradition of urban project developed in the sixties by the Tendenza, with its particular attention on the history of cities and territories I have previously mentioned. With the question of embodied energy, the temporal depth of territories, which already had been a humanist preocupation gains it’s sustainable respectability. We can now reformulate the assertion of Aldo Rossi that was our starting point: “In the utilization of the existing bodies of territories, there is at once an ecological and a psychological rationale. They are both an energy value and a point of reference.”

Towards a new aesthetic of recycling

Paola Viganò is working mainly at the urban and territorial scale, dealing with the recycling of territories. The principle to build the city on the city, which is already admitted in order to preserve agricultural land, is getting more accurate taking in account the criterium of embodied energy. Thus, at the architectural scale, existing building are once again facing the alternative of being like roman amphitheater either preserved for their energy value or converted into quarries of architectural materials31. Rehabilitation or recycling of buildings is slowly becoming the main task for european architects.

If rehabilitation could be a relooking process, playing on the image of the existing building32, with projects like the one of the chinese architect Wang Shu for the Museum of Ningbo in China, or the Potato Head beach club in Bali by Andra Matin, a new kind of architecture is appearing, not anymore using the immaterial fragments, but the material ones. A new kind of aesthetic play the depth of our societies.

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26 Fabian p. 19-20
27 Fabian, p. 20
28 Fabian, p. 13
29 “When parts of the city or portions of territory go through new cycles the intersection of social dynamics is inevitable, as the influx of new population and the expelling of others creates marginalization or incentives inclusion. This is evidenced, for example, in the violent history of American Renewal (Jacobs 1961; Bass Warner 1972), although animated by a strong commitment to the urbanization of modern space. Thus recycling is not synonymous with restoration or restructuring. It does not only consider the material parts of the city but also its social and political dimensions.” VIGANO, p. 21
30 Fabian, p. 20
31 In France, the construction of 1m² of new collective housing generates 23kg of various waste because of demolition-reconstruction practices that are most of the time more economic than rehabilitation. See : Encore heureux, architectes (2014), Matière grise. Matériaux/Réemploi/Architecture, ed Pavillon de l’Arsenal, Paris. Some
32 For example : Jakob+Macfarlane, docks ou Tour bois-leprêtre, Lacaton et Vassal
Bibliography


