



RESPONSIVE ARCHITECTURE AND ADAPTIVE REUSE OF THE 8TH EX-CE.RI.MANT MILITARY AREA IN ROME

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Abstract

The 8th ex-Ce.ri.mant is a today dismissed 33-hectare wide military area in Via Prenestina 931, in the Rome eastern suburbs but still within the GRA, provided with 84,000 extended sheds designed by the engineering school of Pier Luigi Nervi. Around its borders, a very heterogeneous and problematic periphery - both for infrastructural and social issues - has developed along the consular roads and the railway. This paper presents a project for an adaptive reuse project of the area as a Temporary Pole for Contemporary Creativity (*Polo provvisorio per la Creatività Contemporanea* or PpCC). While the stratified program derives from the analysis of the social fabric and the supply-and-demand of cultural and social services in the Municipality V, its development is framed in the context of a Smart City involving the areas along the railway line and inspired by the Circular Bio-economy or the "4R" production model – Reduce, Recycle, Reuse and Recover – which shapes planning, production and consumption at different scales. In particular, this is accomplished through "weak" interventions by means of existing movable structures and materials which are recycled or sustainable in environmental and economic terms. The urban space is conceived in an environmental, temporary and responsive key, an approach grounded on the formation of a sustainable ecosystem integrated with the neighborhood and open to formal and functional variations during use through physical and digital sensors. At the same time, activities are chosen in order to guarantee both the recycling of "physical" waste, such as food, clothing, objects, furniture, etc., and inclusion of "social" waste and "weak" subjects, such as the elderly, children, immigrants, and evicted.

Keywords (max 4)

Cerimant, Adaptive Reuse, Circular Bioeconomy, Responsive architecture

1. Introduction

This paper¹ describes the method, workflow and outcomes of the adaptive reuse project of the 8th ex-Ce.ri.mant, a 33-hectare wide military area in Via Prenestina 931, in the Rome eastern suburbs within the GRA. While the program of the project, a temporary Pole of Contemporary Creativity (PpCC), results of the analysis of the social fabric and the demand for cultural and social services in the 5th Municipality, its development is inspired by the principle of the Circular Bio-economy or the "4Rs" production model – Reduce, Recycle, Reuse and Recover – which invests planning, production, consumption as well as the society's shape itself.

In this sense, first this paper describes the features of 8th ex-Ce.ri.mant within the infrastructural and functional context of the territory it belongs to; frames the area in the background of a Smart City development of the eastern sector of Rome; discusses the importance of a "fast way" to a

temporary reuse of dismissed buildings in this age; introduces the idea of applying the Circular Bio-economy or the 4Rs model to existing buildings; and emphasizes the importance of adopting a responsive architecture for the adaptive temporary reuse.

Second, this paper describes the methodology and design process followed by the team of teachers and students to study the area; to elaborate a functional program; to organize the activities in the indoor and outdoor spaces; to design every single intervention and part according to the 4Rs principles; and to develop the project and its visual communication, as well.

Third, this paper briefly describes each single part of the PpCC project addressed to the several criticalities of the contemporary society.

Finally, this paper provides some considerations and conclusions about this experience and its possible development.

¹ This paper results of the collegial work of both the authors. In particular, D. Fondi edited the parts from 1 to 3 while F.

Colonnese, who took part in the project as a process and representational advisor, the parts from 4 to 6.

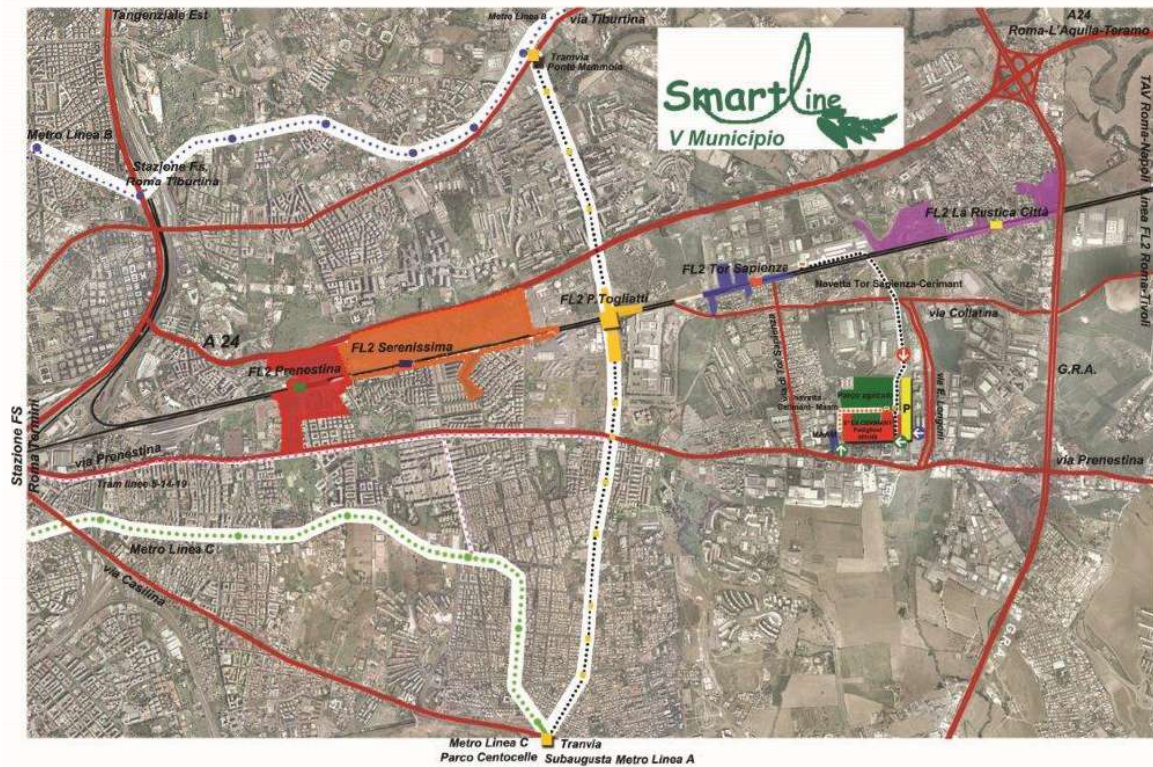


Fig. 1: Zenital photo of eastern periphery of Rome, between via Tiburtina (above) and via Casilina (below). The infrastructural network is here evidenced (red for roads, black for railways, dotted lines for subways) while the colored fields identify the Smart Line 5th Municipality and the ex-8th Ce.ri.mant (plan by Fondi and Alexis).

2. Description

The military area of the 8th ex-Ce.ri.mant is located in Via Pretestina 931, Rome. It is an almost 33 ha-wide fenced area, which can also be accessed by a railway line, whose main function was storing and maintenance of military vehicles. Almost all the structures have been abandoned for years and some of them, bombed during the Second World War, have never been repaired.

Most of the area is occupied by a monumental theory of reinforced concrete sheds. They were designed by Pier Luigi Nervi's engineering school and built at the end of the 1920s, as revealed by the reticulated iron arches covered with bricks and the vaults in iron-reinforced brick panels. The seven major pavilions, placed side by side along the longest side, are 220 m long, 20 m wide and covered with barrel vaults. They are equipped with lighting from

above and have large windows on the short sides North/South. The two terminal sheds are also equipped with arcades and side glass entrances. The sheds, which together cover around 84,000 square meters, are surrounded by office and service buildings as well residences, with gardens and uncultivated land.

Around the military perimeter a very heterogeneous and problematic periphery unfolds, both for infrastructural and social issues. In the last decades, it has been developing along the consular roads and the railway, almost saturating the territory between them. Some of the emergencies surrounding the area are to be mentioned, like: the Biomedical Campus, specialized in radiology and oncology, with research facilities and laboratories; the American Hospital, a polyclinic with advanced diagnostic and surgical techniques; the Museum of the Otherness and Elsewhere (*Museo dell'Altro e*



Fig. 2: Aerial view of the ex-8th Ce.ri.mant showing the railway (red), the piazza (orange), the park and other gardens (green), the parking area (yellow) and the sheds around them (rendering by Alexis)

dell'Altrove, Città Meticcia or MAAM), which resulted of the abusive occupation of the former Fiorucci factories by homeless Italian and foreign families as well by the spontaneous activity of hundreds of artists, and is currently the first inhabited museum in Italy.

Since 2010, several disused military areas of Rome have been included in a protocol signed between the Municipality of Rome and the Ministry of Defense, making them available to host collective and social functions and allocating 2,5 billion euros to this goal.

In June 2017, The General Direction of Art, Contemporary Architecture and Periphery (*Direzione Generale Arte e Architettura Contemporanea e Periferie Urbane* or DGAAP), which is a central structure of the Ministry of Cultural Heritage and Activities, and Tourism (*Ministero dei Beni e delle Attività Culturali e del Turismo* or MiBACT) has organized the conference *Futuro Periferie. La cultura rigenera*. Held properly in the sheds of 8th ex-Ce.ri.mant, it has established a shared framework of priorities and interventions for the recovery of this area. After stipulating a on 7 June, the Ministry of Defence and the Agency of Demanio gave the area to the MiBACT. Anyway, from that event on, the changing political addresses has put every action and prospective on ice.

3. The Smart Frame

The project concerning with the military area of the 8th ex-Cerimant is called *Temporary Pole for Contemporary Creativity (Polo provvisorio per la Creatività Contemporanea* or PpCC).

The PpCC is part of a wider urban regeneration scenario, which affects the Eastern sector of the Roman suburbs and is based on the concept of Smart City (Fondi & Colonnese 2016). In particular, the sector between the Via Tiburtina and Via Casilina presents a series of empty or under-utilized areas and is supplied with a bundle of existing regional and national-scale infrastructures which, however, do not form a capillary capable network to adequately serve the local territory. The *Smart Line V Municipio* project, the subject of graduation seminars² between 2014 and 2017 and of a manifestation of interest by the Municipality V of Rome,³ constitutes the scenario in which the PpCC is inserted. The *Smart Line* is focused on the re-qualification and re-use of the stations of the FL2 railway line, which runs parallel to the Rome-to-Neaples High Speed Railway (*Treno ad Alta Velocità* or TAV) for the entire length of the 5th Municipality from the Prenestina station to the Rustica city (Fondi 2014). This proposal, still a work-in-progress, re-thinks of the 5th Municipality through the reconnection and optimization of the numerous infrastructures, its three major parks (the Centocelle Park, the Aniene Park and the Mistica Park), the reuse

² Director D. Fondi, co-director M. Alexis, advisor A. Dolci.

³ Delibera di Giunta no. 32, October 2015.



Fig. 3: The major sheds of ex-8thCe.ri.mant from the roof of the Museo dell'Altro e dell'Altrove (photo by Alexis)

and/or recycling of the numerous empty spaces and/or abandoned area, and the involvement of citizens to transform them into resources. All of these actions are designed to favor the discovery of the existing cultural heritage, the enhancement of its territory and social innovation.

3.2 A Program of Temporary Functions

After having elaborated a first general functional program, which resulted from the observation of the conflictual social fabric of the Municipality and the unfulfilled demand for spaces and collective structures, the attention focused on the socio-economic and environmental impacts and on the enhancement of the benefits for the communities involved. To this goal, a specific project was arranged for the PpCC in the former military area of the 8th ex-Ce.ri.mant.

To establish the criteria for the reuse of the area, a careful reflection has been carried out on similar interventions on wide disused structures. Adaptive reuse developed in 1980s as a way to mediate between the functionality of new buildings and the

cultural and environmental value of old buildings particularly appreciated by local communities (Burchell and Listokin, 1981). In the last decades, this approach found many applications both in private and public areas, with some differences. Often public administrations, in restoring functionality to abandoned estate, have mainly taken care of the building restoration without this being adequately supported by neither a functional program nor a management model tailored to the intervention and projected in the medium and long term. In some cases, the interventions have left the administrations in troubles, the recovered spaces turning out to be under-utilized or used with critical economic sustainability profiles.⁴

A traditional refurbishment of the 8th ex-Ce.ri.mant complex, with the accomplishment of all the bureaucratic procedures, could involve the central and local administrations for years, if not decades. Such a period could expose the structure conservation status to further risks of partial collapses and occupations, as well repentances by the Ministry of Defense.

⁴ For example, consider the huge Tobacco Manufacture in Bologna, where also Vervi designed a shed built between 1952 and 1960 by Nervi & Bartoli. In 2012, the Hamburg-based Gmp-Von Gerkan Marg office won the design competition for the redevelopment and functional recovery

of the former Manifattura dei Tabacchi, Bologna, aimed at its conversion into the new Technopole. Seven years have passed with continuous changes by administrators, and meanwhile some of the structures are frequented by pushers, have been occupied or are about to collapse.



Fig. 4: Interior of one of the major sheds (photo by Urnos)

As a long and complex process, traditional architecture production suffers by nature from the frenzy and haste of these years, marked by economic and social changes on a global scale and from an endemic lack of courage and foresight of governments and administrations. Proceeding from the identification of a criticality to the designing and building of a new building can take years and it seems that, in these very last years, resources are preferred to be invested in making something with short-term effects. This project proposes a change of perspective, regarding the abandoned areas with great social potential that focuses on temporariness as a value to be promoted in order to offer swift, light and flexible answers to the needs of citizens.

In this context, it is essential that the 8th ex-Ce.ri.mant can begin to "live" immediately, hosting functions, events, experiences even for short periods. This is fundamental to run a process of re-appropriation, protection and maintenance by both the administration and the communities involved. This step should first have the effect of reinserting these spaces in the public circuit, making the citizens aware of its presence and ready to adopt it. Second, it is useful to test the validity of the functions introduced and their effects on the economic and social fabric in the short term as well to enhance the

awareness to be able to intervene with corrections and additions. In the medium term, it could favor a gradual process of renewal of the structures, attracting interest and capital useful for restoring the most degraded parts; in the long term, it could catalyze and accelerate the infrastructural and social requalification of the whole Eastern suburbs of Rome.



Fig. 5: Interior of the minor sheds (photo by Alexis)



Fig. 6: Logo of the PpCC (Picture by Fondi and Alexis)

3.3 Circular Bioeconomy and Responsive Architecture

In this scenario, it is essential to identify and promote virtuous actions useful to transform the 8th ex-Ce.ri.mant from a "waste" (or "weight" or "shame") for the city into an economic and social "resource". The PpCC project is the key to such a "redemption" by means of a program inspired by the principles of Circular Bioeconomy, a development model which is critical with the industrial vision and the extreme consumerism of Western society and is currently being adopted for some years in Europe, too.

In its Circular Economy Action Plan, the European Commission in 2015 defined the "circular economy [as the economic space] where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised" (European Commission 2015). The document sets a special focus on the efficient use of economic and ecological resources and not only on waste, which is eventually treated as a resource.

Briefly, this approach can be summarized in the 4 Rs: "Reduce, Recycle, Reuse and Recover". The application of the 4 Rs' philosophy 8th ex-Ce.ri.mant area is made possible by the shape, quality and state of preservation of the existing structures: an imposing building structure that defines the edges of a large central square that, in turn, is in continuity with an extended green area.

PpCC project does intend to test the application of the 4 Rs' philosophy to the architectural field. First of all, the project involves the re-use of the entire site and almost all existing buildings as only the bomb-damaged structures are demolished. Second, it identifies the functions and the intervention criteria to temporarily re-use both the structures and the outdoor spaces. Third, it totally relies on technologies and materials that agree the principles of recycling and sustainability. Fourth, it is mainly aimed at the "waste" of society, in order to include and reintegrate them.

The experimentation proposed for the PpCC combines the principle of a sustainability oriented to the circularity of the industrial product with the idea of immediate, provisional and responsive architecture.

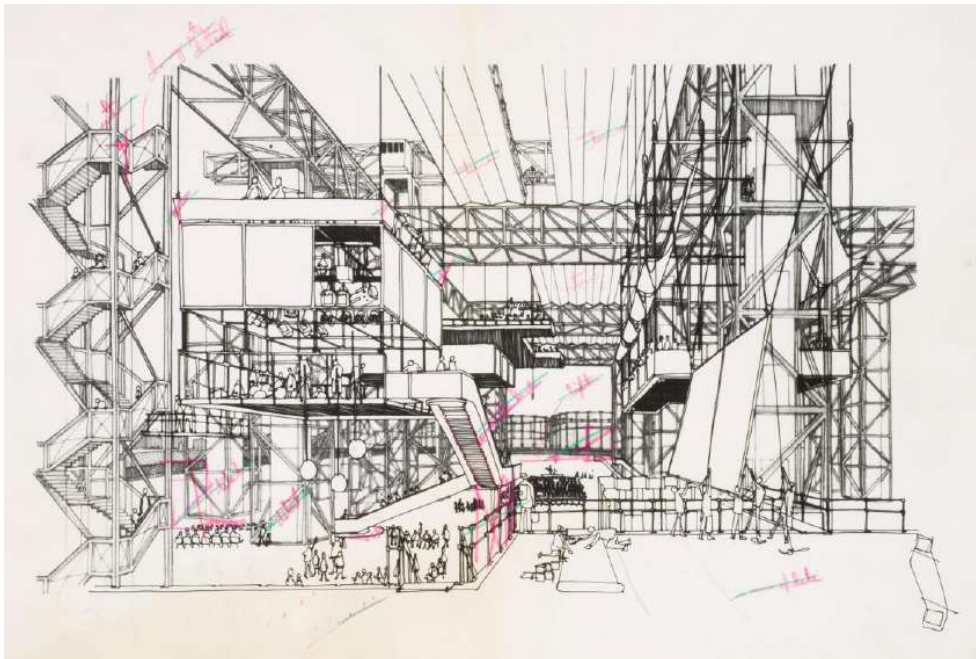


Fig. 7: Cedric Prices, Fun Palace, perspective drawing, 1964 ca.

Responsive or interactive architecture had already been evoked some decades ago by the visionary British architect Cedric Price. His designs for the *Fun Palace* introduced “a radically new kind of interactive and variable architecture, highly adaptable to the rapidly shifting cultural landscape of England now and in the future” (Mathews 2005, 78).

The structure of the *Palace* was not defined a priori but offered a “structural flexibility that constitutes an architecture in continuous evolution and it is the company itself that requires additional activities and functions [...]: the form is determined by the needs of the mass that influence the designer to create a composition of interactive units that change over the life of the building” (Gasperini 2008). The interactive architecture works on the concept of a multi-directional communication between the work, the function and its user and can be defined as the art of building relationships between people and built components. The residents, the users, the curious or casual visitors should be unknowingly attracted by this “place” and realize that the architectural space in which they are living their experience is no longer static. On the contrary, it may be modified through the configurability and customization of the spaces that they vary according

to the boundary conditions. Interactivity in architecture leads to the search for design tools and construction systems that have their own intrinsic intelligence, identity and definition. The purpose of a mutable, temporary, mobile use is to induce the future users to questions such as: “What is it? How is that building made? “But also” What can I do? What can it become? ”

The possible answers result directly from the use of the building, from the verification of the quality of its space, from the feed-back of sensations, from the originality of the functions offered. This approach is certainly easier and decidedly more concrete than implementing theoretical discourses to be organized around a hypothetical working table in which the generic “active participation of citizens” is envisaged. Sensors and applications are already able to indirectly collect information on the behavior of people, on the satisfaction of functions, on the level of active participation, on the involvement, also favoring participation from remote. Obviously, this approach requires first period of trial-and-errors, a second adjustment period and a third set-up period, always maintaining a part of the flexible spaces open to “bottom-up” initiatives.

4. Methodology and Design Process

The project for the PpCC was developed as part of a weekly graduation seminar in about six months' time. In a first phase, the undergraduates⁵ became familiar with the site. To this goal, they carried out a first walk and inspection in the area of Via Prenestina, writing information, taking photographs and proceeding with rapid surveys of the external parts of the military area. After this inspection, they gathered documented the historical evolution of the area, the current urban planning, the structures designed by the Nervi school and the other buildings.



Fig. 8: Study model of the major sheds (Photo by Colonnese)

Thanks to the courtesy of the military leaders of the area, one of them was able to enter and take some precious pictures of the sheds' interiors, which were immediately shared. Graduating students have therefore drawn up a general survey of the area in vector format, producing a plan, profiles and sections of the site. After this survey, they have elaborated both a digital model and a 1:100 scale model of a portion of two of the main sheds side by side, with a removable roof, which could be placed on a sheet with the overall plan of the same.

In a second phase, undergraduates and teachers have gradually planned what can be considered the general program of intervention through discussions and comparisons on the phenomena, questions and potentials expressed in the immediate area. At the same time, the formers had to learn about the key topics of the project, gathering information on circular economy, inclusive society, environmental

and economic sustainability, waste disposal and transformation cycle, food waste recovery technologies and those for biology and biodynamic agriculture, the types of temporary and self-built residences, etc.

To define coherent and realistic guidelines of intervention, they often had to go beyond secondary sources - books, articles or web pages - personally meeting the authors of such practices, such as: farmers, restaurateurs, craftsmen, designers engaged in the use of innovative and recycled materials, producers and managers of sports facilities for disabled people, delegates of local communities and administrators, obviously. Needless to underline how these experiences, always readily shared, were formative precisely as a comparison with extraneous aspects of the colorful contemporary society.

Thanks to the teachers' guidance, they selected the best practices and inserted them into a sort of shared, open and ad-libitum integrable book, which was always present in the classroom but also accessible in digital format. Along the lines of the *modus operandi* of the OMA office (Yaneva 2009), this "fictitious" book also contains inspirational images, capable of arousing discussions and reflections and evoking the road to innovative solutions, eventually becoming a possible mood-board for the entire operation.

In a third phase, each graduating student was commissioned to take care of a specific sector of the military area and to propose a functional theme, which was discussed together with teachers and colleagues and developed with a view to a synergic relationship with all of the others. Since the first formal proposal of occupation and use of the spaces assigned, each student has been asked to produce study models, even extremely simplified, to be placed in the model of the sheds in order to immediately verify the spatial consequences, occasionally using a mirror to virtually double the depth of the structure. At this point, with their mind already on the respective themes to be developed, a second inspection was carried out, this time focused on the MAAM. This provided them the possibility both to read up on techniques and dynamics of occupation of disused industrial spaces, and to observe from above the interior of the military area,

⁵ Emanuele Franceschetti, Vehmar Simon Urnos, Alessia Bragalone, Carmela Bochicchio, Eleonora Conti, Vanessa Monetti, Maria Antonietta Giordina Sirchia.

which is generally inaccessible. Accompanied by a local guide, who further contributed to deciphering territorial marks and persistences, which would be otherwise incomprehensible, the undergraduates were able to further refine their respective programs and models for transforming the space of the 8th ex-Ce.ri.mant.



Fig. 9: An example of the posters denouncing the criticalities of contemporary society (picture by Franceschetti)

Alongside the formal definition through drawings and small models of the structures to be placed inside and outside the sheds, undergraduates were called to write a report. This text was expected to frame their proposal in the local cultural and production context, to clarify the assembly criteria of the architectural elements, to describe the type of use envisaged and the degree of responsiveness and adaptability of the spaces themselves over time. As expected, most of the designs feature an open composition of modular and often mobile elements. The continuous exercise of presenting this report orally at each verification of the design contributed greatly to their awareness of the themes - which are incidentally very complex - often treated in an

original manner. Subsequently, the undergraduates were asked to prepare a poster expressing, in a polemical tone and with the language of the mass media, the criticalities of the contemporary society which they were interested in and working on: food, waste, disability, communication, housing, health, accessibility and inclusion. This poster actually opens the final presentation of the projects, which collects drawings, models, animations and a video able to summarize in a few minutes the amount of data collected and choices made. This guided planning process does not mark the end of the studies on this area. They are still ongoing, with the aim of establishing a framework development plan for the area to be delivered to the administration and to present to the local committees, a blog where to collect further suggestions and involve other operators, as well as an intervention protocol to experiment on similar abandoned contexts.

5. The PpCC Project

The project is organized around three major systems: the railway, with the new station; the promenade that crosses the theory of pavilions; the multifunctional square with the public park.

5.1 The Station

The accessibility to the PpCC is one of the major problems. It is very far from the center of Rome but, at the same time, it is an area equipped with several infrastructures. It can be accessed by car, of course, but this attitude should be somehow discouraged. It is no longer acceptable to promote the recovery of large disused structures in the periphery without considering alternative systems to private transport and polluting vehicles. Even if a parking area is here considered, on the east side of the complex, it occupies only the 3% of the whole site.

Besides the bicycle lanes, which are basically missing in the 5th Municipality, the accessibility to PpCC should be entrusted to the train. The Tor Sapienza-Ce.ri.mant electric-powered shuttle is designed to run along the east side of the park and to stop at the first shed.

The railway, used exclusively by the army, is completed in the construction of a new stop near the Tor Sapienza station - where the FL2 underground line passes - and leads to the entrance to the area (while the distance between the new Ce.ri.mant station and the MAAM is covered by an electric

shuttle). As also this new station is expected to respect the 4 Rs' philosophy, an existing building was chosen. In particular, the teachers decided to use the prototype built around 1945 by Luigi Nervi for a small removable building (Neri 2014, 47-51).



Fig. 10: Zenital photo of the area with evidenced the railway and the stations.

Entirely built in curved cement slabs, it is used today as a car parking in a degraded area along via della Magliana, close to the area where Nervi had founded in 1939 the *Laboratory for building materials* to test quick solutions to build structures for military hangars.

The prototype is one of the first experiments led by Nervi in the long process of defining and producing the *ferrocemento*: "two-dimensional cement structures reinforced with multiple layers of metal mesh uniformly distributed throughout their thickness and covered with cement mortar composed of a fine grain size to allow its passage between the interstices" (Bologna 2012, 75).



Fig. 11: Pier Luigi Nervi, Ferrocemento prototype in via della Magliana, Rome, 1945. View of the exterior (2017, photo by Fondi)

This prototype of a shed, which was created by applying the cement on the metal mesh layers with a brush (Gargiani & Bologna 2016, 145-156) appears to be dimensionally suitable to become the new railway station. Moreover, it reveals several relationships both with the project and with the Roman site. A first element is its author, Nervi, whom is attributed at least the inspiration for the shape of the sheds of 8th ex-Ce.ri.mant. A second element is offered by its shape. While from a structural point of view, the corrugated sheets of only 3cm in thickness support each other with their own shape, from an aesthetic point of view, this solution gives life to an artifact that seems to recall the play of concave and convex surfaces typical of the Baroque Roman and appears even more suitable for the intended use. A third element is its temporary nature, of course: Nervi himself had imagined it as a temporary structure: for this reason, to be easy to disassemble, transport and reassemble elsewhere.



Fig. 12: Pier Luigi Nervi, Ferrocemento prototype in via della Magliana, Rome, 1945. View of the interior (2017, photo by Fondi)

5.2 The Promenade through the Sheds

Both the parking area and the Ce.ri.mant station are at the east side of site. While the electric shuttle uses the first railway line, a second line is occupied by the historic military train, which works as a memory of the past uses and an exciting playground for children. Outside the sheds, the *Other Market* is arranged. Here people can stock up on products grown in urban gardens or from surrounding farms, which pursue organic or biodynamic farming.

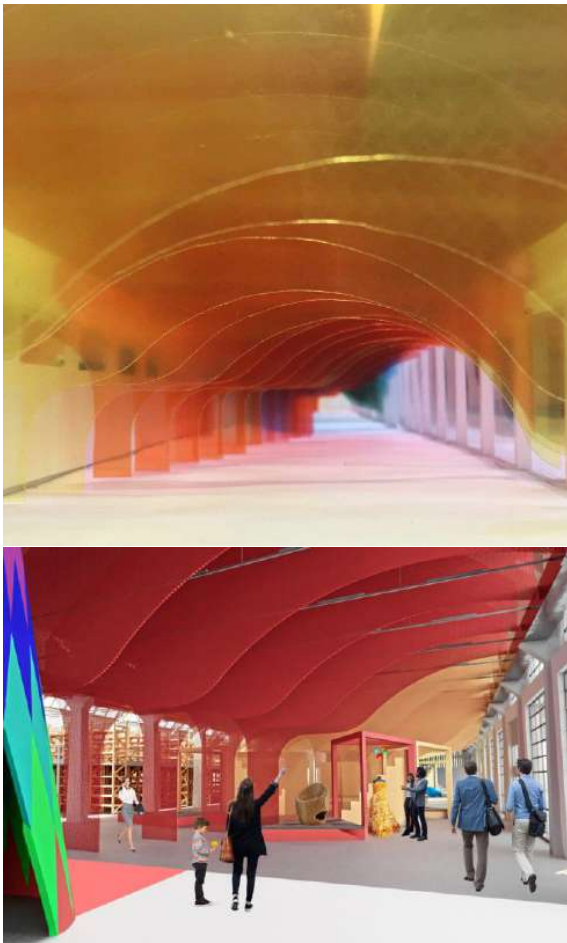


Fig. 13: 4 Rs against Extinction (model view and rendering by Urnos)

The sequence of the structures is crossed by a long internal *promenade* that overlooks the various activities installed in the sheds, flanks the central square, continues with external circular, pedestrian and cycle paths, and driveways for the electric service and refreshment shuttles.

The first shed is entitled *Food 3.0* and is dedicated to nourishment. The menus proposed by both the restaurant and the self-service food-court are based on the combination of "excellence / surplus" (*eccellenza / eccedenza*). They are inspired by the "food surpluses" donated by markets, supermarkets, producers and suppliers. This is transformed into good and tasty dishes, in a three-course menu with a balanced nutritional content. Here the people employed in the PpCC can eat together with visitors and occasional users. The space, characterized by social tables that run like carriages on internal tracks, is designed to favor the exchange of looks, words and ideas and to host events, varying the shape of the spaces, as well.

The second and third sheds are entitled *4 Rs against Extinction* and are dedicated to the gathering and recycling of waste. Here people can bring their own "waste" and watch the materials collection procedures, their storage, recycling and repair. The exhibition offers a light, colorful, dynamic, soft space for the shed that intrigues and conveys new ways of perceiving it. An exhaustive documentation of the workings adopted and the objects on display allow to learn some recycling and repair practices that have been forgotten, while in the market area, fixed or transformed products can be bought.



Fig. 14: Everyone can Fly (rendering by Bragalone)

The fourth shed is entitled *Everyone can Fly*. It is a listening center equipped with sports facilities, such as the walls for free-climbing or the basketball court. They are designed for the introduction and insertion of the disabled people to sport and the use of facilities in the belief that passion can bring them closer to a normal-sporting path.



Fig. 15: Urban Farm of Music (rendering by Bochicchio)

The fifth shed is entitled *Urban Farm of Music*. It is dedicated to music as both a universal language able to let people understand each other and an instrument of therapy and inclusion. Acoustic experiments, music production, teaching and "do-it-yourself" musical performances are here experimented and promoted. Its web-radio broadcasts music throughout the building complex, often dedicated to individual activities and interspersed with announcements and bulletins that inform about the activities and the events planned and happening.

The sixth shed is entitled *In+outdoor Skate* and is dedicated to urban culture as a key to social inclusion and regeneration of the site itself. People here can teach and practice acrobatic activities and urban sports like skateboard, parkour, hip-hip dance or even graffiti writing, as a moment of aggregation and sharing for participants of all ages.

The seventh shed is entitled *4 weeks to live* and is dedicated to the theme of emergency and temporary housing. As one of the main problems of the big towns, this is caused not only by earthquakes and floods, but often by minor calamities and extraordinary situations that create uneasy conditions and force residents to abandon their homes. This is the case of the families who fled in the middle of the night shortly before the buildings near Ponte Milvio in which they lived have collapsed; of those who suddenly find themselves under eviction; of those who simply need to renovate their home or have to adequately assist an invalid relative. Virtuous examples and full-scale models of temporary residences are here shown, can be visited and even partially transformed by visitors.



Fig. 16: 4 Weeks to Live (rendering by Conti)

The eighth shed is entitled *Recycle-Up* and is a start-up incubator, a place where ideas become business and startups receive support and guidance. In this sort of open and transparent factory, young and creative people, researchers, and inventors mostly cooperate to designing Apps. Here the 4Rs are applied not only to industrial and business circuits but also to systems to facilitate procedures and respond to the daily needs of citizens, such as those that regulate the feed-back that allow the continuous re-planning of the PpCC management.

Finally, it is important to highlight that most of the activities performed in the sheds are mutually supported and connected, in order to optimize services and consumes according to the Smart frame.



Fig. 17: Recycle-up (rendering by Monetti)

5.3 The Piazza and the Park

The end of the promenade is marked by the large square named *2030: Time is Now*. 2030 is the date indicated by scientists as the "year of no return" for the ecosystem destruction that would put the entire humanity at risk of extinction. It is surrounded on three sides by the sheds and mastered by the towering watch showing the countdown running. The piazza is conceived to welcome events, musical shows, open-air cinema, theatrical performances or simply families with children chasing a ball, bored elderly people looking for company and young people intent on frantically "chatting".



Fig. 18: OrtoCircuito (plan by Sirchia)

Beyond the square is *OrtoCircuito*, the almost 10 ha large park. It is open and free, although equipped with lighting and video surveillance to ensure security all day long. The park constitutes the virtuous triggering element of a transformative process that respects biodiversity and the identity of the places. It not only welcomes recreational and environmental functions but also becomes a significant part of the production pipeline of raw materials as well as of "prime second" materials. The park serves to make the visitors take part in and be aware of the cycle of nature. Along its avenues, bees and butterflies, whose action of pollination is fundamental for the life and development of the essences, can be seen "working" in their natural habitat, among the flower garden, the garden of



Fig. 19: Bird's eye view of the digital model of the Ortocircuito Park (rendering by Sirchia)

medicinal plants and the orchard. In particular, the park joins the *Bee the Future* project,⁶ offering his surface to prevent the disappearing of them as well of 70 from the 100 most diffused vegetal food crops in the world, the FAO (2018) warns. This can be done mainly by adopting the flowers the bees love more and enhancing the biodiversity.

In addition to this, a part of the park is dedicated to urban vegetable open to active citizenship, while another presents a canalization network that describes the water cycle with the hydro-cultures linked to the breeding of carp.

Finally, the old military surveillance towers are converted to bird-watching, house sensors for detecting environmental quality and, on astronomically relevant occasions, can turn into nocturnal observers to admire celestial phenomena.

6. Conclusions

This historical age is characterized by the acceleration of the global economic cause-and-effect system affecting every social process; by an environment mistreated and reviled; by a heterogeneous society, increasingly divided by census, ethnicity and cultural aspects; by public administrations lacking economic resources as well the strength to put in place a complex and far-sighted planning of the territory. In this part of the Western world, the traditional public architecture process, which is grounded on a stable society, on long-term economic investments, on a long time of accomplishment, and on a general indifference to

environment, seems to be not only anachronistic but is getting less and less achievable.

The authors believe that a “fast way” to reuse is to be included in the political agenda, experimented, defined and ruled. A way to reuse and recycle existing structures quickly, cheaply, temporarily and sustainably, even when they have been abandoned years before, such as the area of the 8th ex-Ce.ri.mant on Via Prenestina.

This proposal, based on the principles of the circular economy, of the 4Rs and of an extensive responsivity of the architecture to the users, shows a possible and achievable recipe to return the area and the sheds to the functional, social and environmental circuit of the 5th Municipality of Rome. Through an extensive application of the concepts of reuse and recycle as well a functional mix of activities addressed to an inclusive and environment-oriented society, the PpCC is expected to become a sort of Community Hub. As an existing physical place, the sheds are re-designed as an “hardware” able to give space, shelter and order to the people, while the several indoor and outdoor functions work as an open-source “software” able to support and orient their needs but also available to be adapted and re-shaped to approach different topics. Eventually, working as a catalyst immersed in a conflictual, fragmented periphery, this should quickly produce social capital, whose effects are to give advantages to a number of aspects of contemporary society.

A different way to consider this kind of “temporary occupations” in respect to the canonical architecture process, would be appropriate to be framed in a different administrative and

⁶ https://www.eataly.net/eu_it/mondo-eataly/api-bee-the-future/

jurisprudential context, in order to let it happen in a shorter time, through the active participation of citizens.

At the same time, such a project is also a direct consequence of the way it has been conceived and designed in the graduation seminar. For months, teachers and students have worked together from the morning to evening in the same classroom, every time changing the dispositions of desks and chairs and adding personal objects to the common space, like a progressive weak colonializing process. No particular accent has been spent on the hierarchy between them while they have been sharing and discussing every little drawing, information or suggestion in order to work as an actual design team. Their own study models have been shared, destroyed and remade, often with pieces of previous models. These practices, repeated week after week, have improved their soft skills, oriented their gaze to consider design as an open source platform, and encouraged a number of virtuous behaviors, somehow prefiguring a sort of general rehearsal of the inclusive society their project is targeted to.

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