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Sustainable reuse of disused railway

Giacomo Di Ruocco[a,*], Enrico Sicignano[a], Pierfrancesco Fiore[a], Emanuela D'Andria[b]

[a]*University of Salerno, Via Giovanni Paolo II 132, Fisciano 84084, Italy*
[b]*Via Irno 43, Salerno 84135, Italy*

Abstract

Railways, an infrastructure system consisting of 'railway lines', tunnels, toll booths and stations, are considered 'abandoned' when, for various reasons, any regular service of railway type is suspended. About 2 thousand kilometers of lines no longer active railways exist in our Italian territory, in most cases abandoned to decay. European and international examples of redevelopment of these derelict structures in bicycle lanes or otherwise dedicated to sustainable mobility foresee the transformation of old stations and toll booths in dining and reception points (youth hostels, hotels, restaurants), info points for the enhancement of the territory and care centers for bicycles maintenance. These tourism businesses may be of great impetus to the development of employment and economic exploitation, as well as be a driver of growth for tourism and economy of the country. In Italy a possible strategy for sustainable conversion of these paths necessarily has to take account not only of landscape and environmental values, but also the rich archaeological heritage which, in most cases, these routes intercept and connect. In this regard, the recovery of the railway plaza of Velia, a Focea colony of Magna Graecia is emblematic. Founded shortly after 540 BC, Velia is located inside the archaeological area (northern region), associated with an abandoned stretch of nineteenth-century galleries and ancient houses of the archaeological park. According to a view to integrated redevelopment, the project proposal is based on the idea of the "museum" structured on the historic landscape values.

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Keywords: Reuse, sustainability; disused railway; archaeological park; greenway; mobility

* Corresponding author. Tel.: +0039-333-90-40-747.
E-mail address: gdiruocco@unisa.it

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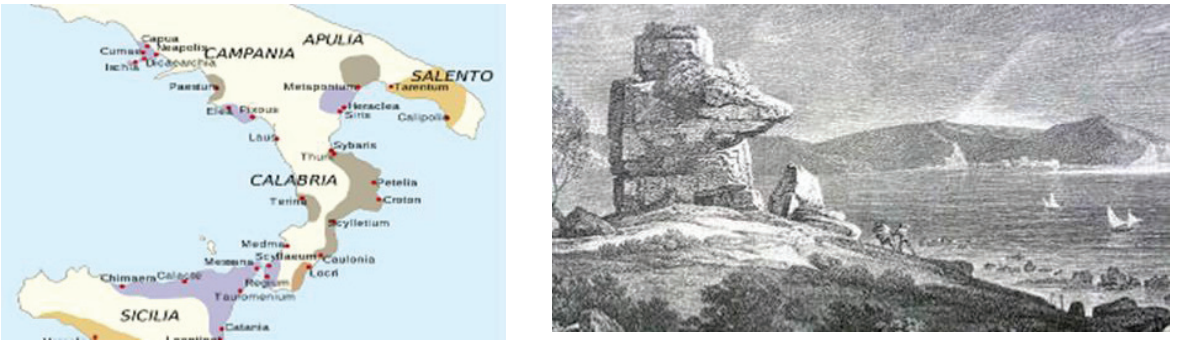
1. Introduction

The work, that concerns the archaeological area of Velia, is about rethinking and redesign of two important elements of the site: the main entrance, which is constrained by the presence of an elevated railway line and characterized by a significant degradation condition, and a disused 'casello', the subject of a recent restoration, but nowadays it is without a precise function.

2. Velia and its discovery †

Situated about 40 km further south of the important archaeological site of Paestum, Velia is an ancient Polis of Magna Graecia (Fig. 1). The archaeological site is in the district of the Piana di Velia, in the little village of Ascea (Province of Salerno, Southern Italy), within the Nazional Park of the Cilento e Vallo di Diano. The Polis was founded in 540 b.C. by the Focei who came from Ionia to escape the Persian invasion of 545 b.C. The old city was characterized by a promontory which jutted out of the sea with the presence of a temple and a first settlement, while on either side small areas were gradually built extending both to the plain in the north and south. From the territorial point of view, the general components are well known by now, starting from the fortifications located in the territory. This territorial system was in functional continuity with the urban one, characterized by walls that marked, with the recurrence of square towers, both the northern district, of which few traces remain, already covered up in Roman times and used as a necropolis, and the southern one, fairly well preserved, and the acropolis that separated the two districts. (Fig. 2) The intersection point between the fortified tracts was the so-called Porta Rosa, which interrupted the road linking Porta Marina to the north and the south. (Figs. 3, 4)



(a) (b)

Fig. 1. (a) Cities of Magna Graecia; (b) Engraving of a part of the city.

During the Middle Ages the lower part of the city was abandoned, as evidenced in a few houses on the Acropolis, with the destruction of some monuments, the re-use of others, the semi-destruction of the theater. Here a fortified village called Castellum Velie, was created which underwent transformation until it assumed the name of Castellammare della Bruca. (Fig. 5)

Inhabited until the seventeenth century, the village disappeared from censuses, and only in the nineteenth century reappeared thanks to some foreign travellers. In the beginning of last century, the village was radically demolished to highlight, according to a vision considered erroneous and not very scientific today, the material documents of the Greek city. Regarding Castellammare of Bruca the Torre Angioina remains (Fig. 6), superimposed on the cell of the Ionic temple that hung over the headland, the Cappella Platina, formerly the church of San Quirino, mentioned in a document of 1144, and the church with an adjoining rectory of St. Maria di Porto Salvo.

† Elaborated by Emanuela D'Andria

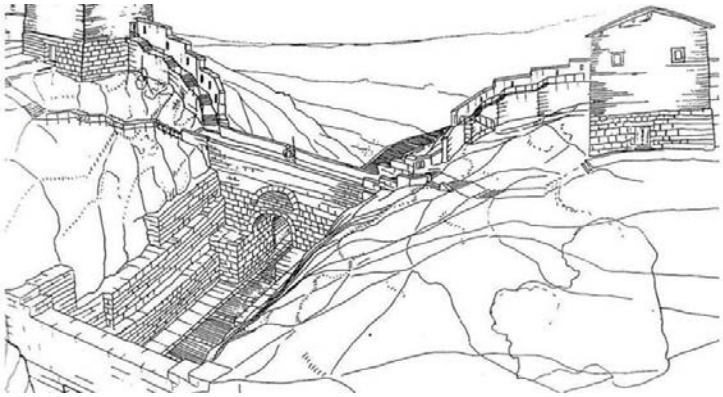


Fig. 2. Reconstruction of Velia's city in its maximum expansion. Drawing by F.Corni.

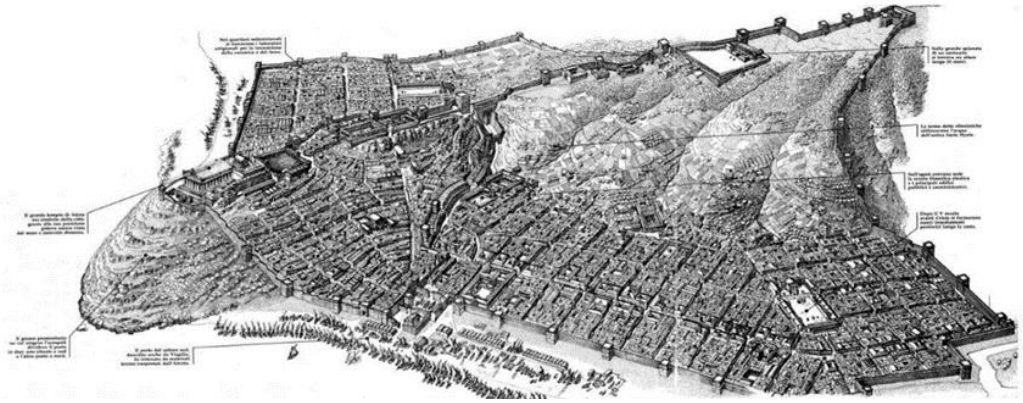


Fig. 3. Reconstructive hypothesis of Porta Rosa.

Fig. 4. Porta Rosa today.

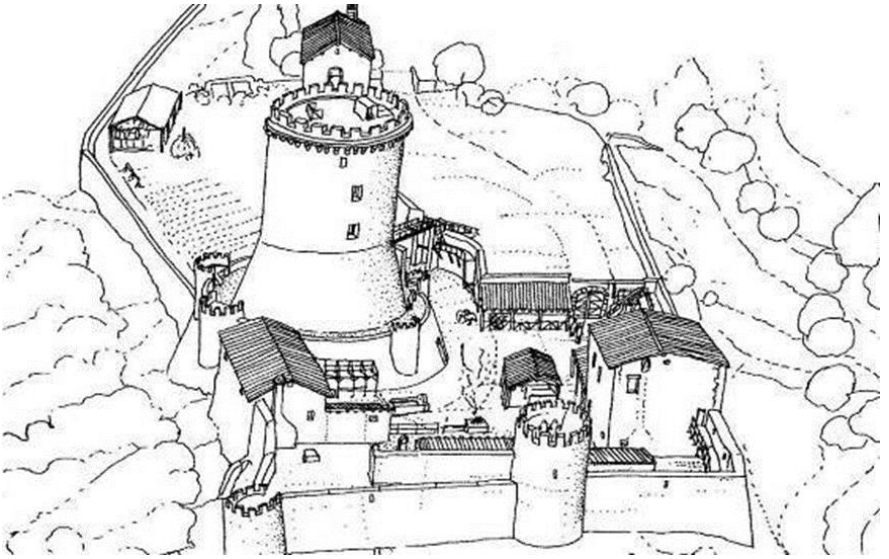


Fig. 5. Castellammare della Bruca (Velia) during the Medieval period.

Fig. 6. The Torre Angioina of Castellammare della Bruca (Velia).

2.1. The railway‡

Under investigation for about a quarter of its extension, the archaeological area of Elea-Velia was, indirectly the subject of one of the largest infrastructural interventions at the late nineteenth century attesting the growth of the Regno d'Italia. As an effect of the Law n. 763 of 1862, the intervention concerned the realization, entrusted to the Italian Society for the Southern Railway, of the primary rail network for Southern Italy. It was a work of considerable technical complexity, given the nature of the terrain, marked by continuous elevation gradients and the

‡ Elaborated by Enrico Sicignano

need to overcome significant orographic impacts by a long gallery. Consequently, even in the promontory, corresponding to the acropolis of the ancient Elea-Velia, a gallery with a curved profile was built, for a length of ml. 258. At the same time, in strict compliance with building types, a small station house (casello), beyond the promontory, at the foot of a wooded hillside was also built in the area where it assumed the presence of the ancient city's northern district. (Fig. 7) The realization of the gallery and its railway line were built almost simultaneously with the activity of the German archaeologist Wilhelm Schleuning, author, between 1886 and 1889, of the first archaeological survey on the ancient city, commissioned by the German Archaeological Institute. Published in Berlin in 1902 under the title Velia in Lucanien, the map of the ancient city represented a first, crucial step towards understanding the urbanisation of Elea-Velia. In view of the archaeological activity, which was defining the relations between the ancient urban plan and the coastal line which had suffered a decisive setback, the railway was intended to act as an element of rupture and alteration, demonstrating the principle of railway infrastructure rigidity in relationship to the territory. This was to be, incidentally, the aspect that underwent even more manipulation in the Fifties, when, to promote the application of new motor technologies, the competent Ministry decided on the construction of a new gallery, dimensioned on a double track and equipped with a larger radius of curvature than the existing one. The new line was placed to a higher level than the previous one: such a condition required a long bridge on reinforced concrete pylons, an intervention that brought a structural interference with the input portion to the archaeological area and, in particular, with the southern district itself, where in ancient times the sea shaped the profiles of a large port. With the adoption of the most advanced technological systems for rail traffic control, the casello was also the object of neglect, without a choice of recovery and re-use. (Fig. 8)

(a) (b)

Fig. 7. (a) The casello today; (b) The new railway.

3. The recovery §

Since the Nineties of the last century the competent institution in the management and enhancement of the archaeological area of Elea-Velia tried to start some recovery solutions, in parallel with the intensification of excavations and restoration, so as to create an 'archeological park'.

§ Elaborated by Giacomo Di Ruocco

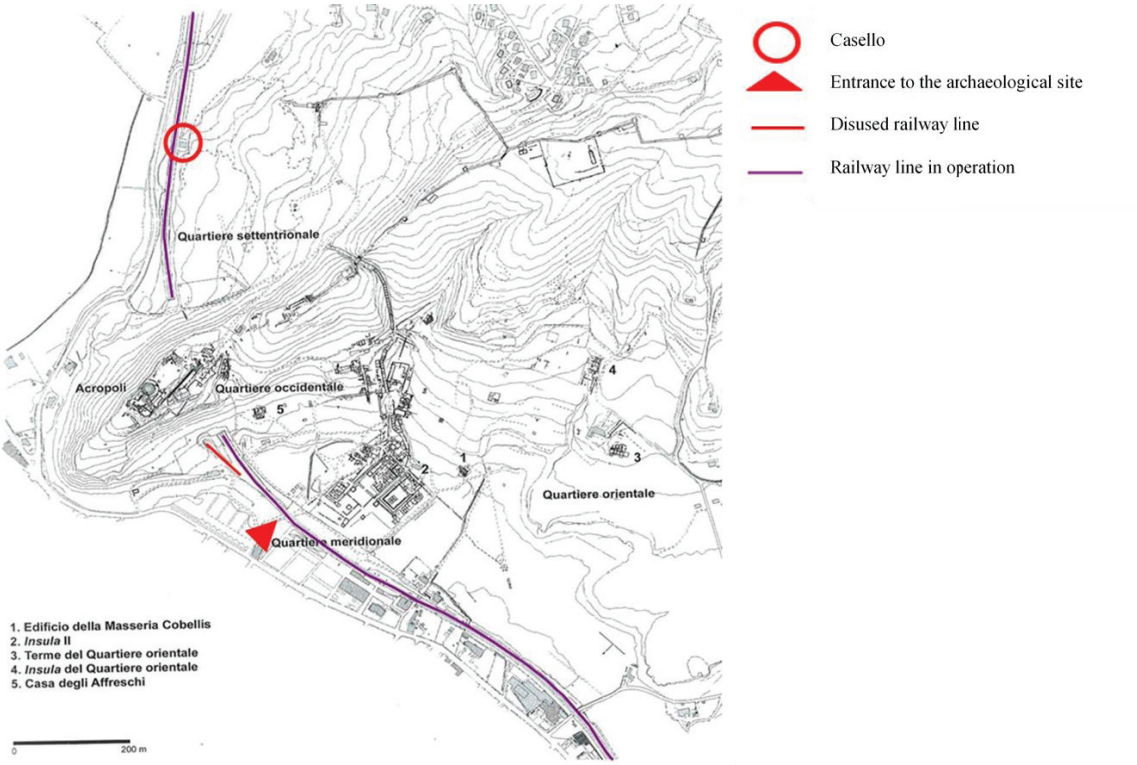


Fig. 8. Photogrammetric survey of Velia.

These are, in fact, the years in which a debate on the ‘nature’ of archaeological areas developed, also encouraged by many foreign examples, increasingly problematic and marked by the shift from a 'static' vision, focused on protection, to a ' dynamic ' one, more and more inside of the territorial resources, with mutual exchanges with the environmental values of the area taken as a whole.

Among the first initiatives undertaken according to a different perspective of the archaeological management, there was the preparation of a 'Feasibility Plan', which is referred to by numerous experts, with regard to urban and territorial aspects, landscape and botanical ones, as well as to those of geological and infrastructural ones.

The study resulted in multiple choice and intervention solutions, all consistent with an overall resolution of the archaeological strategy aimed at an 'integrated dimension' of the 'park', compatible with the maintenance and enhancement of the same processes, which were to safeguard material testimonies, also including the railway considered as an internal element to the historical configuration of the territory.

From this point of view, the most significant decision was the acquisition of the gallery and its use as storage for archaeological materials. (Fig. 9) Located, in fact, on the opposite side of the railway viaduct on the input side to the 'park', it was thought that the gallery could play a role in joining the two sides of the place; if made opened to the public, it could be a first introduction to the knowledge of the 'park' itself, thus leading to other moments of reflection along the tour route.

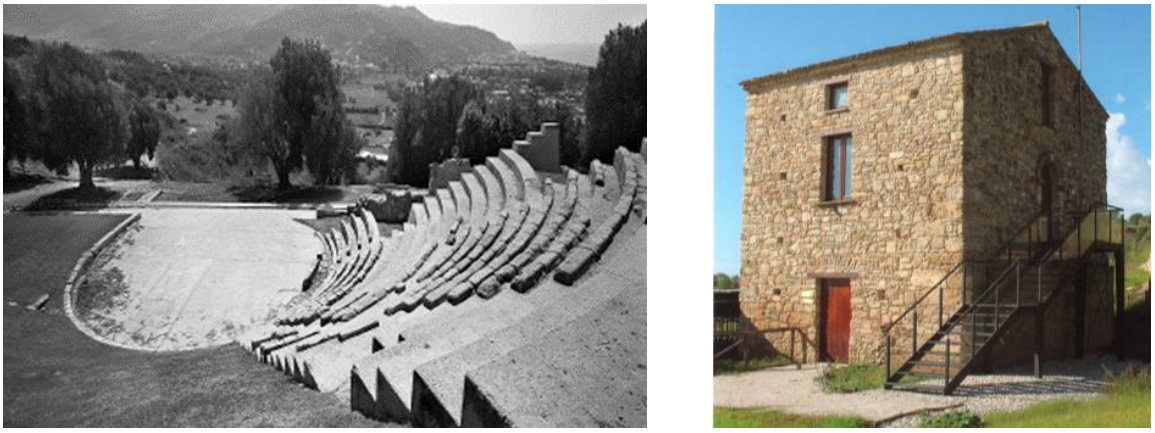
At the same time as the 'recovery' of the gallery, restoration work began, including that regarding the acropoli, related to the late-Hellenistic theater, made with 'reinforced earth', and two medieval churches: St. Quirinus, used to house the statue of Parmenides, and that of S. Maria di Porto Salvo with the vicarage, both linked in a museum on Roman sculpture. (Fig. 10)

Not less important, however, it was the 'recovery' of the so-called Masseria Cobellis and the decommissioned Casello Rail. The former, located in the southern district, in addition to highlighting the structures of a Roman villa

of large size, made it possible to have a space equipped for the documentation of the place in a continuous upgrade key. The latter, however, although appearing in ruins, after the purchase from the State Railways, was radically restored, respecting the original structure, regarding duties related to the restoration and documentation.

(a) (b)

Fig. 9. (a) The deposit after the architectural renovation; (b) The deposit after the architectural renovation.



(a) (b)

Fig. 10. (a) The late-Hellenistic theater;(b) The Masseria Cobellis.

Unfortunately, despite these important moments of intervention, the program has had only a partial implementation. After overcoming technical difficulties, has failed, for reasons difficult to summarize, and concerns the functional management of the results, where the fundamental strategy that guided the vision of the 'Feasibility Plan' is still patently clear.

3.1. Topicality of a 'recovery'[**]

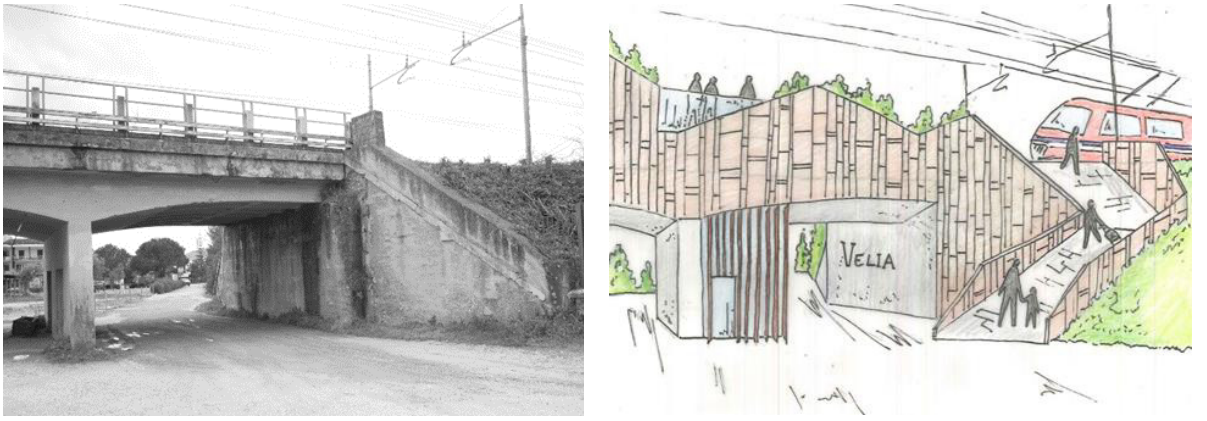
Based on what implemented by the Superintendence, the intention to re-affirm the value of the programme does not seem to be an eccentric insistence, especially if it is re-thought in terms of an integrative planning.

It is evident, in fact, that the most problematic phase of actions aimed at the 'recovery' and the definition of the 'archaeological park' is represented by the input to the latter, where there is the greater degree of interference between the railway and the archaeological front, where, in other terms, there is the higher rupture between the latter and the territory.

The construction of prefabricated boxes (ticket office, bookshop, refreshment) has served little if they are hampered by the same railway viaduct itself; a little, on the other hand, of less use is the gallery, even if used as storage: the distance which separates it from the underpass of the modern viaduct is excessive; while the relationship with prefabricated boxes is detached and not very functional.

As an alternative, a valid project proposal could be to consider the entire viaduct as an engineered facility for a railway station and a documentation place on the archaeological landscape of the ancient Elea-Velia. This is an idea that was clearly expressed by Charles Aymonino during a visit to Velia, and shown in his sketch. By recovering the input function of an old underpass, contextually built at the gallery, there would be the possibility of a route-front which, after a first tract of input-output to the gallery, would allow both a different relationship with a reception facilities, the realization of a pausing place as well as a station for the train.

This point may be indicated by a sequence of small signals exhibiting its archaeological character, internal to a possible coating with insulating wooden bands. It may be equipped with an access ramp at the train level, joining to it an elevator for the disabled, as well as a jagged space for educational initiatives and information on local history, aimed primarily at schools. In other words, as an alternative to 'no place', such a front would overcome the current fragmentation through a continuous image of homogeneous sequences, addressed to a single purpose, incorporated into a unique formal connotation. (Figs. 11, 12).

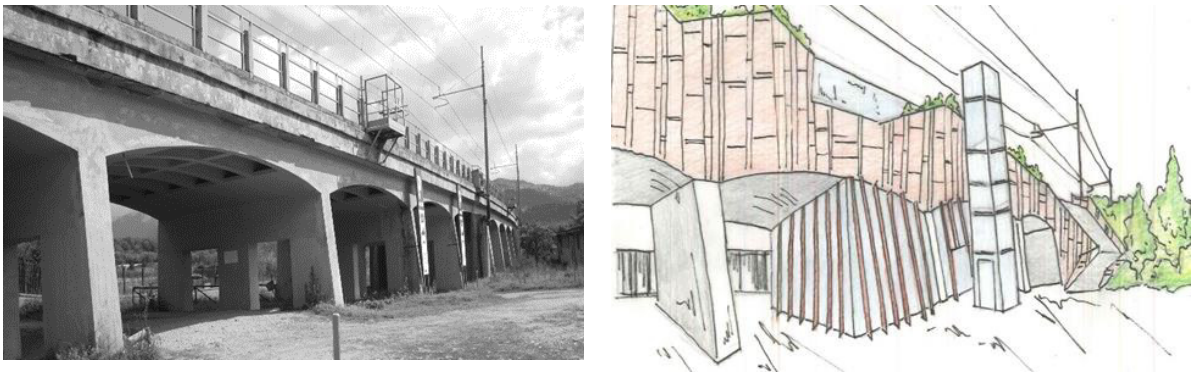


(a) (b)

Fig. 11. (a) The entrance to the archaeological site today with the new railway; (b) Project proposal.

As regards, instead, a possible hypothesis of functional recovery of the Casello it would act in a more dilated dimensional scale, entrusting to the manufactured article the role of "container" of the Velia archaeological history and putting it in the system with other architectural structures that characterize the territory, such as the Masseria Cobellis and the churches of S. Quirino and Santa Maria di Porto Salvo.

[**] Elaborated by Pierfrancesco Fiore



(a) (b)

Fig. 12. (a) The entrance to the archaeological site today with the new railway; (b) Project proposal.

In so making the history of the city of Elea-Velia would weld relate more decisively to the territory creating a wide scale network of knowledge and information?

4. The key actions[††]

In the light of this proposal and taking into account that every archaeological site needs different design solutions, due to the infinite possible environments, the intervention of Velia with its activation of key operations, obviously taking care to observe the specificity of the territory, can be considered as a model for similar sites.

The main principle of such operations is not an unnecessary creation of newly manufactured goods, but the idea of taking advantage of the pre-existing, making good use of it. In this regard it is essential to enhance what is already there (in the case of Velia profiting from the elevated railway, transforming it into a suitable place to host an info-point, deposits and interactive multimedia installations), creatively ordering spaces and paths, reorganizing accesses by giving them the right visibility. This project, however, also means planning cultural meeting places that sponsor the site in question and are home to shows and aggregation events. The plan also leads to the recovery of degraded areas, devoid of identity, re-assessing and improving them, transforming them into dynamic areas which can be exploited by the local population. Further action is to organize the entire area through the definition of new polarities, defining for any pre-existing buildings in loco new roles and functions so as to obtain a network of knowledge about the territory.

5. Conclusion[‡‡]

The intention was to highlight by means of relevant case studies, the potential in terms of sustainable renovation or regeneration, of applying in an archaeological context, what is already standard practice for urban built environments. Our main objective, having mapped as key elements of a territory its archaeological sites, was that of re-adapting such historical sites par excellence, to the needs of modern day enjoyment/fruition, based on the concepts of Reduce/Reuse/Recycle. Our guiding principle in activating practices of transformation concerned the rethinking of a new life cycle for infrastructure that has been stratified over time both internally and within its surrounds, that fully respected and complied with its original values. The historic function of any archaeological site, be it (world) renowned or lesser known, can be guaranteed only by the conservation and safe custody of its

[††] Elaborated by Emanuela D'Andria

[‡‡] Elaborated by Giacomo Di Ruocco

remains in harmony with present day needs. Enhancing each element of our heritage thus prevents compromising the needs of our future generations. To this aim, case by case, the specifics of a particular territory should be revealed and mapped for processes of intervention.

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