Fabbrica della Conoscenza

XV INTERNATIONAL FORUM

Le Vie dei. Mercanti

Carmine Gambardella

WORLD HERITAGE and DISASTER

WORLD HERITAGE and DISASTER
Knowledge, Culture and Representation

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Collana fondata e diretta da Carmine Gambardella

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Le Vie dei Mercanti _ XV International Forum

Carmine Gambardella
WORLD HERITAGE and DEGRADATION
Smart Design, Planning and Technologies
Le Vie dei Mercanti
XV Forum Internazionale di Studi

editing: Ciro Ferrandes

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WORLD HERITAGE and DISASTER
Knowledge, Culture and Rapresentation

Le Vie dei Mercanti
XV Forum Internazionale di Studi

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Conference report

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200 papers published after double blind review by the International Scientific Committee
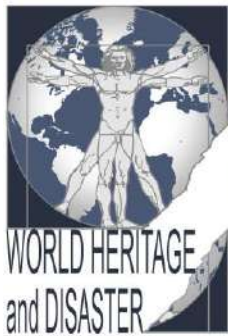
ART and perceptual ARTifices

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Abstract

The essay proposes some reflections about the different relationships and types of relation that happen among works of art and architectures, where the latter plays the protagonist representation instead of being the place where the artwork exhibits itself or the experience where it's hard to distinguish the border between arts and architecture. Many are the examples and moments of osmosis between the two worlds, when one is able to welcome the possible expressive ways of the other.

History offers us several experiences, even belonging to the past centuries, which are characterized by different languages and communicative tools: but it's possible for these last to identify similarities, to trace a *fil rouge* that sees the realization and individuation of a common character that governs them in the perceptual artifices and the utilization of perspective illusions.

The relationships growing in places that were projected to be characterised by surfaces totally covered by frescos, revoke aestethic considerations or others related to the taste and the fashion of the time, rather than references to the favourite expressive instrument.

Those invoked in this range are some experiences where the surface loses its being a limit, becoming an intangible membrane giving life to real architectural machines which lives in continuity with the real architectures ones that welcome them.

Keywords: painted architecture, perceptual artifices, illusions of perspective, anamorphosis.

1.   The fascination of illusions

The essay proposes some reflections about the different relationships and types of relation that happen among works of art and architectures, where the latter plays the protagonist representation instead of being the place where the artwork exhibits itself or the experience where it's hard to distinguish the border between arts and architecture. Many are the examples and moments of osmosis between the two worlds, when one is able to welcome the possible expressive ways of the other.

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Those invoked in this range are some experiences where the surface loses its being a limit, becoming an intangible membrane giving life to real architectural machines which lives in continuity with the real architectures ones that welcome them. Examples in which perspective rules generate and control spaces from the easiest ones to those characterized by difficult compositions where perspective is pushed to the limits of projection's principles. In these representations the position of the observer assumes a fundamental role.

Through an ideal travel among centuries and cultures we do find, since the most ancient eras, spaces where a fusion of virtual and actual places happen. Since the Roman parietal paintings already, we partecipate in illusionary compositions' realisation which, covering the whole surface of the walls, decorate, beautify and give birth to representations suggesting three-dimensionality.

There are several examples in Pompei, where the paitings realised between the start of I° century b.C and 79 a.C tell the stories of places populated by architecture, columns, arcades, cornices and architraves, temples and areas that were open towards external spaces, projecting immeasurable dimensions. These are the paitings that the archaeologist August Mau defines of Second Style, the same ones which will see an evolution in those of Fourth Style, marked by fine and thin shapes. Here, *unreal* compositions make up great "scenic designs", stage-places of mythological tales. Architectural elements mix themselves to define fantastic structures that find their reason to realise in something that's only possibile in painting's unreal dimension. Perspectives are pushed to the limit of structural collapse. The illusions that generate are those of creating - in tiny areas such as *cubicola* or in major ones as *triclinia* - perspectual artifices aimed to the illusion. There was no rule governing the composition's realisation which was the result of multiple perspectives, anticipating, in this manner, that the observer was not static but dynamic. The researches and the studies made on several frescos, both of second and fourth style, have allowed to elaborate figurative hypothesis of the spaces imagined by the *pictor*. Through these polls, areas of virtual reality have been analyzed: the places where emonational feelings of the obsever happen.

Starting from operations of perspective restitutions, the processes have led to the configurative elaboration of the places. *Architettura picta's* reconstruction are analyzed and put in relation with the actual areas that welcome them. This allows, through interpretation and hypothesis, to elaborate other possible perceptions, visualizying the artifice in a different way.

In this field two studies among the several ones conducted on Pompeii's frescos [1] are remembered, they've been chosen to underline the differences of virtual spaces belonging to the figurative languages of Second and Fourth Style.

1.1 The illusions of perspective in the villa of Boscoreale

The first example is referred to the frescos that had been realized for the famous *cubilicum* in what is said to be Publio Fannio Sinistore's villa in Boscoreale, now kept by the Metropolitan Museum of Art. The study gives the opportunity to reflect on how painted architectural compositions can appropriate the relationship with the environment that welcomed them only in a virtual way, sadly.

The frescos were sold at auction to an artist from New York on 8th June in 1903. It is in those days that the thorny story about the selling of the Villa's paintings and the Treasure of Boscoreale [2], now scattered among the Metropolitan Museum, Amsterdam's Allard Pierson Museum, Belgium's Mariemont Museum, the Louvre and Naples National Archeological Museum had happened.

At the end of the 19th century Pompeii's suburb of *Pagus Augustus Felix Suburbanus*, which today is included in the territory of Boscoreale, returned several Roman villas as this one, where extraordinary pictures were found. These last decorating the private space of the cubiculum do respect the rules of symmetry and date back to 30-40 B.C. A symmetry that has been respected thanks to the distribution of the frescos by proposing the same ones on counterposing sides, exactly as thanks to the paintings' composition that presents an axis of central symmetry. The *cubilicum*, 6 m long and 4 m large, saw the entry on one of the two short sides opening itself towards the *peristilium*, that was reached once passed the anteroom. The rectangular environment was divided in two main areas: a first, almost squared space with a flat covering defined the *prostylos* that anticipated the *alcova*, the *dormitorium*, covered by a

Fig. 1: Villa of Boscoreale, cubiculum. The depicted elements do follow multiple rules of perspective.

Fig. 2: Villa of Boscoreale, cubiculum. The painting of the long walls.

lowered barrel vault. The division between the two parts had to be underlined by the ground's mosaic decorations and the bed's carpet of the alcove. A similar rule was established for the walls' compositions. The walls were entirely covered by depictions. Even though every painting belongs to the Second Style's figurative language, the depictions do present some diversities of composition. On its back wall the alcove represented a rural scene which enlarged the physical space of that place. The passage between concrete and virtual space was highlighted by four couples of coupled columns and pillars on the tripartite wall. A painted podium, which is also present in different versions on two other side walls, allows to develop the compositions on an upper level, unlike the pavement. The fresco has a great lack caused by a window's opening, but it's still possible to recognize the entire composition. In the foreground there are two red columns entirely decorated with rich gold shoots that were born from acanthus leaves standing at the base of the trunk and finishing in gold Corinthian capitals.

Among these there's a yellow orthostat characterized by a bas-relief depicting a city, the former is holding a container of glass full of fruits. In the high part of the painting structures with arbours are visible behind the rocks covered in vegetation.

The subject's divison of the painting is repeated in the frescos realized for the long walls too. A first one completes, with its symmetrical side, the space dedicated to the alcove. Four fluted columns with other four pillars maintain a triangular frame. The header, broken in the center line, allows to dedicate the focus of the depiction to a *tholos*. The circular monument presents a pagoda roof and four red columns which look-alike to the others painted in the rest of the pictures. The figuration wants the *tholos* to be set at the peristyle's center, which is constituted of Doric columns and developing on three sides. Four pillars drawing a L, that are painted in the *cubiculum*'s corners, solve the passage among the virtual spaces of the different walls. Between the long walls' frescos instead there's a square pillar with little squared bosses on every side to represent a resolution of continuity. The bigger painting is characterized by refined red Corinthian columns wrapped up with golden branches. As said already, here also the
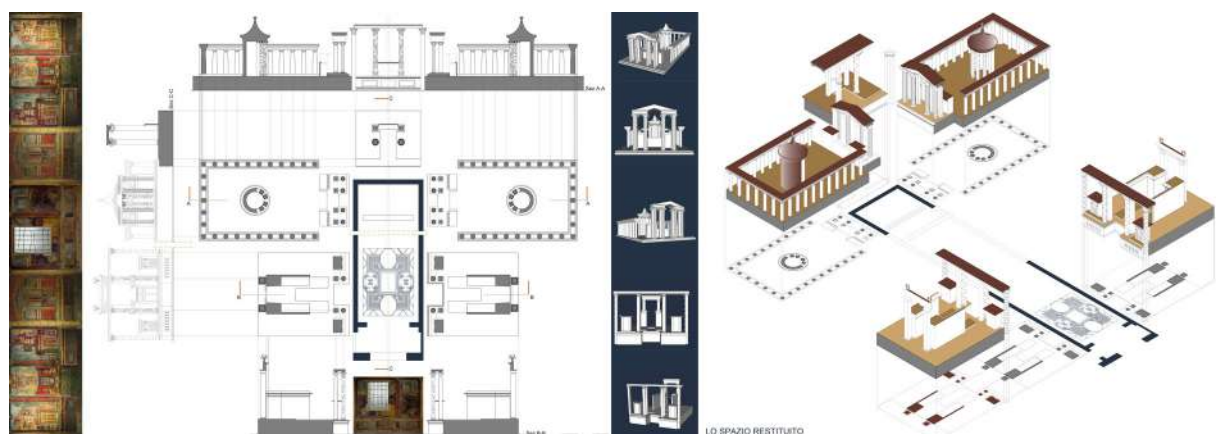

Fig. 3: Villa of Boscoreale, *cubiculum*, the recreated virtual space.

space is split by four couples of pillars and columns. The picture's center portraits a holy ambient with an altar for vows and two big golden vases, placed on two marble benches. The space is delimited by three red orthostats and a closed gate that separates from the back yard.

This last one, surrounded by a high wall, has at its centre an aedicule which is characterised by long Ionic pillars with trabeation and amphoras. A goddess' simulacrum underneath represents the focus of the composition. Beside the depiction there are many architectures, placed on different perspective levels alluding to a city's representation.

In the foreground a building is visible: it has its door and gate fully decorated with coloured marbles and panels with red and gold fishes.

An accurate study of the paintings, which are only apparently the result of a unique central perspective, reveals that the depicted elements do follow multiple rules of perspective. On the composition's symmetrical axis, track of the main visual plane, one can identify the diverse positions of the straight lines' vanishing points. The straight lines are interpreted as orthogonal referred to the picture, thus ending in the reference point. Once supposed multiple resolutions for an harmonic final reconstruction, it's been possible to continue with the restitution of frames. If the horizon lines' identification needs an attentive analysis of the represented elements without any particular difficulties, the identification of the range marker needs appropriate considerations. It's been possible to determine the internal orientation of the identified perspectives thanks to the presence of circumferences of horizontal planes – stems, columns' bases rather than capitals, they all could've been inserted in squares represented with central perspective [3]. Multiple are the considerations about the outside orientation. The fundamental ones were faked sometimes, they coincided with the podium's upper extreme. In other cases they've been assumed by suggesting a precise dimension of elements that had been given back by some other perspective's restitutions. This has allowed to relate diverse architectures and amount to complex elaborated spaces. The reconfiguration's operations also employed necessary philological reconstruction to complete the articulation of some parts of architecture: they weren't painted but it had been possible to foresee them. The painter's will is to portrait, through the *architectura picta*, spaces that are able to multiply the real dimension both on parallel levels to the iconic picture and elevated or overlapping ones. In these and similar depictions of Second Style the paintings are characterised by the representation of places resembling the hosting architectures themselves. The space's reconstruction happens through the relationship – defined and interpreted - between the projective space of perspective's pictures and the descriptive, metrical one of a plane representation. The 3D reconstruction and the interpretation allow to underline the bond among actual and abstract parts, to visualise the possible, imaginary routes happening there.

1.2 The illusions of perspective in the Casa della Caccia Antica

Among the most meaningful examples of Fourth Style we can remember the ones got back from the Casa della Caccia Antica in Pompeii [4]. The adornment here is almost fully attributable to the last decorative period identified by Mau, these examples were realized after the violent earthquake in 63 A.C. [5]. The study focused on the frescos of the so called *Ala*, of the *Tablinium* and *Exedrae*. Several scholars do agree and attribute their author to a single workshop. The ones realized for the first two environments present multiple similarities of composition. Three walls are painted and the same composition is proposed on the two ones that counterpose one another. The theme deals with rich and fantastic architectures that create the *scaene frontes*. They're sceneries welcoming "actors", interpreters of mythological tales. What is represented on the walls of the Ala is the myth of Achilles who escapes on the Isle of Sciro to avoid the war of Troy. The characters increase in number throughout the three walls, which present complex architectures of slender columns sustaining coffered canopies, several aedicule, elaborated trabeations and exedras. The possible realisation of the depicted figures is just an illusion. The dominant colour is ochre yellow and it is extended almost all over the walls, except for the basement. This last one, coloured in a dark maroon, follows rules of composition that are totally diverse from the ones of the scenes that are upon it. The drawing is the same on every of the three walls. A small portico is composed by columns and caryatids of golden bronze, it presents a coffered covering and a central aedicule containing a gold Cupid. The fields standing beside the basis' strip have ornaments, garlands, spirals of flowers and decorative amphoras.

Unfortunately, despite the painting's uniqueness, the frescos' conditions haven't allowed to carry out the operations of restitutions of frames directly on them. It was chosen to conduct the studies, which were aimed to the construction of what went further the walls' limit, on incisions and chromolithographs effectuated by Fausto Niccolini, Judith Sellers and W.Klinkert. If for the western wall, the back wall of the *Ala*, ten different perspectives for the parts constituting the *scaena* have been identified, for the lateral ones (which lack of the painting's lower part) it has been suggested to connect all of the elements with a unique rule of perspective. In order to get a virtual, harmonic composition, both for the painting itself and for the others, it's been fundamental to pay attention to maintain a metrical correspondence of the restituted elements.

Fig. 4: Casa della Caccia Antica in Pompeii, *Ala.* The recreated virtual space.
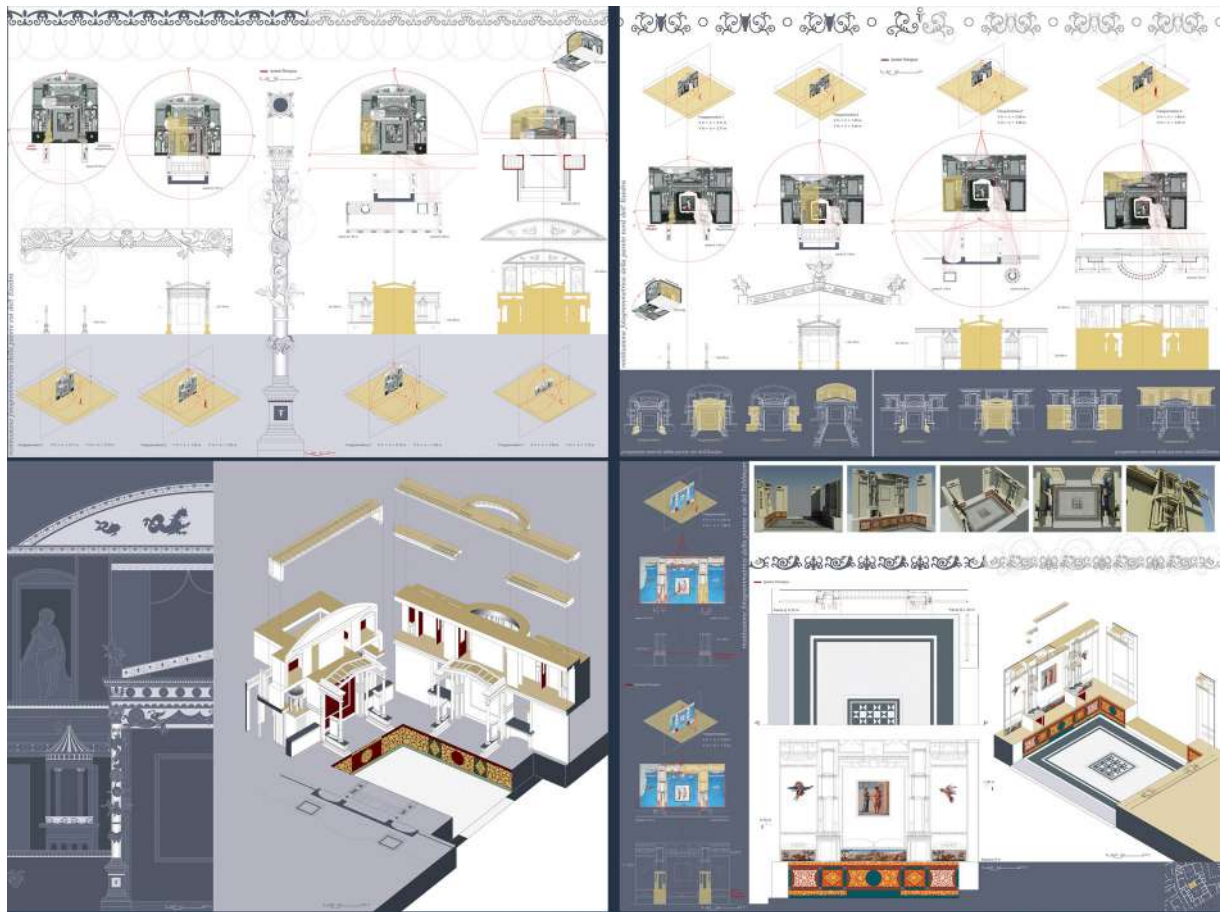
Fig. 5: Casa della Caccia Antica in Pompeii, *Exedrae* and *Tablinium*. The recreated virtual space.

It was predictable that the major complexity of the *scaenae frontes* pictor's scenographies produced a larger number of perspectives to whom the represented elements were connected. It's interesting to notice how the same rule of perspective, and as a consequence the same feeling of perception, puts in common the painting's parts and sectors. More precisely, it's been possible to identify a system of perspective for the base, a different one for central canopy structures, others for the side strips'architectures and the elements of deeper or upper levels.

The comparison among the virtual scene's diverse perceptions, obtained by developing as many central perspectives as the identified and supposed systems of perspective, allows to make some considerations. Thanks to the central projections' comparison one can sense the painter's choices, aimed to get the best realization of the depicted architectures. The representation of every single part tends to enhance its configuration. The *pictor*, in an wise or intuitive way, and even when suddenly modifying the point of view, is able to show you parts and/or elements that would have been sacrificed in the hypothesis of a single perspective [6].

The comparison between the painting rather than the chromolithograph and a unitary perspective vision, adequately chosen among the elaborated ones, reveals that the whole perception of the painted architecture isn't very far from the one elaborated according to the standards of the perspective construction.

The relations that create between the arts for achitecture and architecture for arts establish a double way of reading. One expresses itself through the other one, it realises itself in the other dimension, making possible multiple exchanges.

1.3 Architectures and Perspective

The maximum expression of such a language will be reached with the aware use of perspectual rules and artifices. What will be developed is a genre which is showing itself in 16th century, consolidating its expressive terms in the 17th, even reaching the following century. These are the centuries when quadraturisti painters will give life to surprising decorative setup. In this context are presented the results of researches made on painting cycles' examples, present on the Neapolitan territory.

The favourable circumstance which wants the identification in Vesuvio's coast as priviliged place for the realisation of nobiliar residence (both of Bourbon and French sovereigns, with the relative courts) will
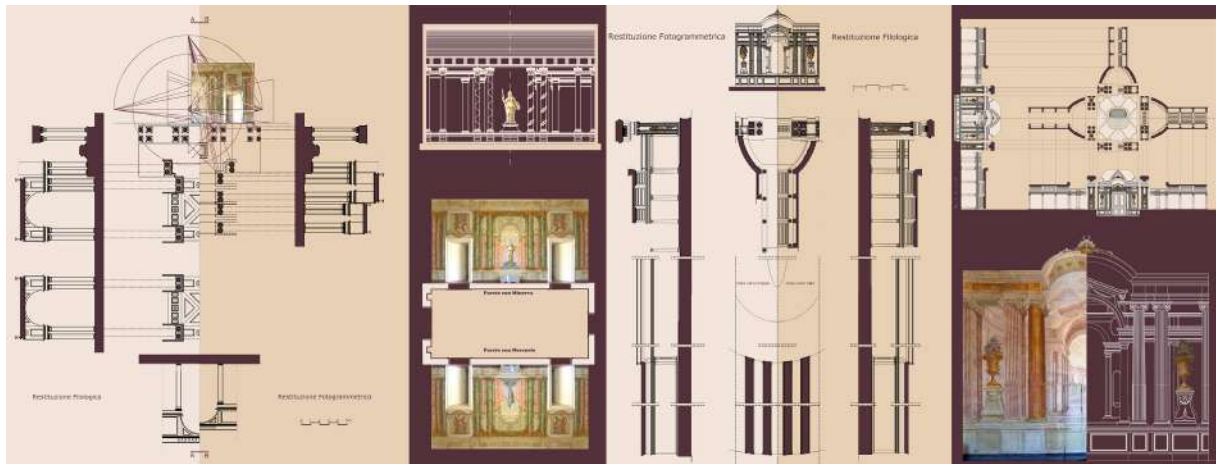
Fig. 6: Villa Campolieto in Ercolano. The interpretation of illusion painted.

allow to find areas with spectacular paintings. Starting with the Royal Palace of Portici, all of the new aristocratic residences became stages where they could create suggestive compositions which, without solution of continuity, cover walls and vaults. On the contrary, the ones that already existed simply adequate with the taste and the fashion of the time.

The survey among the actual spaces of architecture and the virtual ones of painted architecture refer to private places, as the salons with frescos of Villa Campolieto in Ercolano, destined to a close and privileged class or to vast salons (as in Castel Capuano in Naples) whose communicative power was addressed to a major public.

Erected by the Normans in XII century and residence of the sovereigns until the XIII century, the Castle has been used in 1540 as seat of Neapolitan courthouses (as wanted by the viceory Don Pedro de Toledo), a function lasted for the next five centuries thanks to a long tradition.

The identity of the place is very strong, it's a symbol of city's historical memory, where everything revokes the solemnity of the area: a place to renew the knowledge of rights and keeper of artistic, architectural peculiarities sadly ignored by many.

The study has regarded the paintings realized for the two salons of the first floor: the Sommaria Salon and the following Saloncino dei Busti. The fresco decoration of these places belongs to the iconographic programme which affected the palace in XVIII century: illusionary architectures in perspective, columns and fake recesses welcome allegorical figures belonging to the juridical tradition of the place.

Geometry, the instrument aimed to reveal the spatial potentialities, relations and connections among elements figurating the *architetture picta*, is felt as science of the space and as mean to investigate the actual areas' complexity. Here the observer, beneficiary of virtual and real spaces, is involved with other dynamics in the scene realized on the high, long walls.

Once again we're looking at some compositions that were conceived with the purpose of overwhelming the spectator and connect with him. Several similarities and relations can be spotted with the Pompeian *trompe-l'oeil*. The representative technique's awareness will achieve spatial compositions of huge value.

Frames' restitutions reveal that the logics of composition relate with scenographies' artifices which, well employed by the painters, allow to stream programmed illusions. The Magri brothers, authors of the Vesuvian villa, enlarge the spaces and progressively compress the intercolumniations that grow in depth instead of painting exedras revealing not circular profiles. This happens in the Exedra's room, the Telescope's room as for celebrations' environment.

Obviously these choices are made with awareness, the author knows that he's creating architectures which are able to "*accelerate*" or "*slow down*" the virtual spaces' conquest. They're aimed to represent architectures that conquer the dimension of illusion.

In the pictures realized for Villa Campolieto there are several references of the hosting architectures. The painted exedras recall the villa's horseshoe. The cross vault and barrel vault colonnade resemble the two axes of the ground floor villa's crossing.

The composition and configurative scheme of the virtual architectures increasing the space of the little Saloon of Castel Capuano sees the same solutions on every wall, except for the necessary details due to the presence of doors, windows, the room's square shape where length is width's double [7]. The restitution of perspective has allowed to analyse and newly configure the virtual space, articulated on three levels. In the foreground, with the role of mediating between the real and abstract dimension, there's an eave composed by binate fluted columns with Corinthian capitals and wrapped up by flowers' garlands. They sustain the roof of rectangular, elliptical and hexagonal coffers running through the room's perimeter. The back wall's composition enriches itself with a rich and plastic base, on top of whom stands the simulacrum of the equestrian statue of Carlo Bourbon, painted in fake bronze.
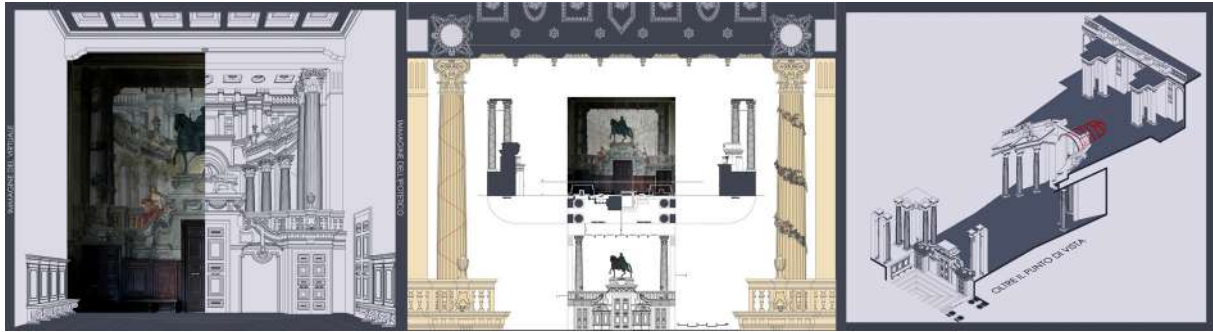
Fig. 7: Castel Capuano in Naples, *Saloncino dei Busti*. Recomposition of the virtual space.

Natali resolves with great sensibility and needed perspective's artifices the mediation among the frames and the shelves depicted in perspective which decor three passages. A central perspective rules the scene thanks to its main vanishing point that distances 1,27 m from the horizontal plane of reference, a choice that implies a major acceleration of the high elements in perspective. It is 19 m far from the picture: the point of view, which allows the complete fruition of the fresco, is reached once entered in the room. There a rule's exception for the shelves on the top of the doors, these last symmetrically placed. The shelves, the result of a parallel projection, are depicted in axonometric. These formers, in a marginal position of the picture, should've been represented in a more accentuated way, but it was avoided by the painter who prefers an harmonious and suggestive representation. The artist lets the exception prevail on the rule, when visual perception and perspective's representation are in conflict.

The restitution of the configured space reveals the representation of a curve exedra that welcomes in the middle a corridor with a conical vault. The figuration is supported by the hypothesis that the composing columns are the same of the foreground's ones. The third and last plane where the scene is developed is represented by a massive palace playing on pillars and recesses' position, then closing the space in depth.

The analysis and the reading of the long walls' iconographic apparatus, characterized by a central perspective, see the identical composition, enlarged to occupy the entire façade. Here the exedra looks a lot more open, the marginal elements perfectly coincide with the ones depicted on the next sides.

The role of the observer acquires a major meaning in perspective's applications, which see an intriguing expressive moment in the mixing of *anamorphic* compositions. Since the 16th century the artists who spread their own artistic expression through this artifice, based on a wise game among projection's geometry principles and the ones of perceptual psychology, give a meaningful importance to the observer.

1.4 Suggestions and visual perceptions

The story and the considerations here proposed move through artistic installations that make of the perspective artifice the instrument of brilliant and singular perspective inventions.

The artistic expressions which assume this instrument as a vehicle and which link the experience imagined by the artist and the architecture, realize themselves in several contemporary installations. Parts of edifices rather than parts of city become the objects where the installation has to be built. Installations realized in the respect of the places that contribute to their existence. It's in this panorama that the works of Felice Varini are included. Him makes of the architecture the place to achieve his inventions, an active place "canvas" of suggestions. What is the limit among artwork, installation and the substrate in which it shows itself? How to divide and separate the elements? Essential geometries, clear lines and forms model and mix themselves. Circles, concentric circumferences, ellipses, single or multiple forms are materialized with brilliant colors, in order to offer several perceptive experiences.

His works want the observer to enjoy the installation from different perspectives, moving in representation's place and relishing of the work that changes.

If for Varini the research of the privileged point, "*potential starting point*", represents just one of the possible perceptual suggestions that the work gives back, the moment of the surprise is the only moment and place possible in other artistic experiences. That's what happens for Georges Rousse. The areas and the artifices that are at the base of his installation always regard elaborations without a form. The work of art's product is a photographic image which stops and gives back the re-composed image, the concept of the idea elaborated through illusionary, paradoxal plays, and is read by the only point of view that's possible.

The story travels among instances of architecture's projects, public spaces which realize themselves through anamorphic works offering multiple perceptual experiences.

Fig. 8: Felice Varini, *La Villette en suites* and Georges Rousse, *Architectures Sculptures.*

There's also, in this narration, the projectual/artistic experience of Karim Rashid for the Neapolitan Underground of Arts, going from vast considerations on the important and meaningful program realized in the Neapolitan city to the installations of the Anglo-Egyptian designer for the University Station. Here also, the common denominator is the game of perceptions. From figuration of pictures of Dante and Beatrice, proposed on ladder's steps of access to the second basement floor, to the works realized with the technology lenticular print 3D which offer, to the moving observer, suggestive and multiple experiences.

The first ones are a projection on misaligned levels, namely on the steps' rise, of the images that are assumed as icons of the humanistic Italian culture. The two pictures result recomposed if the vision of the step's horizontal surface is cancelled. This perception is possible by identifying the main point of view's position a little higher than the ground or observing the picture from a certain distance. Like this, the sight that is strongly conditioned by the horizontal surface allows a perceptive and mental experience of the fragmented image's re-composition. Thanks to the lenticular technology H3D System Rashid manages to create installations able to multiply the perceptions' game. This technique is based on the printing of 4 mm wide panels that allows to visualize 3D objects on a two-dimensional surface. These are felt as in movement depending on the observer's position. The objects seem to come alive on the sides of the two platforms, which are 32 m long, and fully covered of the two identical installations [8], *Mutalblob Pink* and *Mutalblob Lime*. They differ from one another just for the chromatic choice.

These works are able to create some environments where the consumer inevitably receives multiple visual stirrings. The perceptive experiences also depend on the speed of how one is going: slower for the ones walking along the platform, faster from the ones standing in the running train.

The lenticular technique is also used for a work called *Iknos*, that is present in the atrium. Here, in 24 panels of 1x2,4 m, the apparently casual sequence of Rashid's particular figures is reproduced twice. The illusion happens because of the changing colours of the symbols observed in movement.

What was wanted to be created in this essay is a story, a journey through art and architecture, between two worlds often connected where the languages are blended. Places where the value, the suggestions

Fig. 9: University Station, Naples. The installations of Karim Rashid. *Mutalblob Pink* and *Mutalblob Lime.*
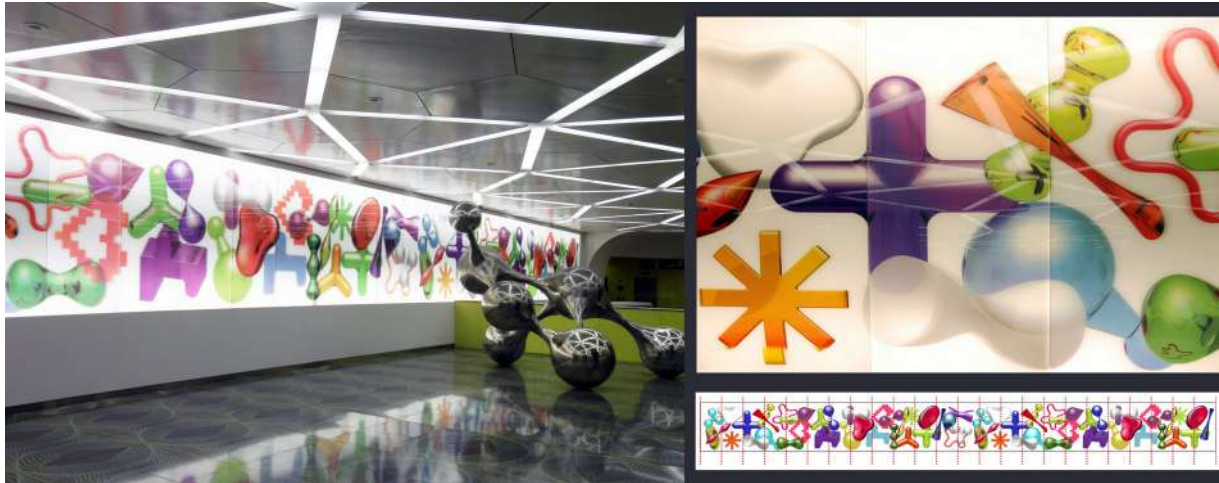
Fig. 10: University Station, Naples. The installations of Karim Rashid. *Iknos.*

are born from the tight relation between architecture and the art nourishing from it.

Ways to communicate different meanings, designed in different contexts but all move in the field of visual communication. Two-dimensional images are realized in search of illusion. An illusion that takes place in the realization of three-dimensionality rather than in wanting to bring, through a perceptual game, images on a fragmented iconic plan or dynamically usable images. Performances, installations, visual experiences that, like any artifice, evoke wonder and never leave space to the indifference.

[1] PALOMBA, Daniela, *Insediamenti nell'Insula Occidentalis a Pompei tra realtà e finzione*, in GIOVANNINI, Massimo, PRAMPOLINI, Franco, *Spazi e culture del Mediterraneo 3, Luoghi Mediterranei*, Edizioni CSd'A, Reggio Calabria 2011, ISBN 978-88-89367-60-5. pp. 363-369.

[2] Vincenzo Giuseppe De Prisco, functionary of the Ministry of Finance, was the owner of the capital where the villa was restituted in 1894. It's because of his actions and economic interests that magnificent frescos, numerous precious and daily objects have been lost.

[3] The range markers ,and consecutively the point of views knocked over V*, have been determined thanks to the identification of the points of distance, +D and –D, vanishing points of the squares' diagonals.

[4] The house's name derives from the big, suggestive fresco that was present on the garden's back wall. Its theme deals with a hunting scene, happening in mountain, with men and diverse species of animals.

[5] The founding of coins' imprints in the wall's plaster of the atrium, which date back to the age of Vespasian, gives us a sure clue about the painting's date of realization, between 71 and 79 A.C..

[6] As an example we could look at the western wall of the Ala's painting, where two small aedicule depicted on the side strips, propose a picture that does not stand in the contest. The painter, in order to allow the ceiling coffer's vision, lowers the point of view even underneath the entire scene's level, instead of using the identical planning of perspective of the lateral placed elements.

[7] The room measures about 9,60 m in depth and 20 m in length, while the Neo-Renaissance wooden ceiling coffer that was realized in the 19th century stands at 9,50 m.

[8] The two works are 32 m long and 1,8 high ,they're realized on single panels that are 1,2 m wide.