



The Measurement Theorem for the Project

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Abstract

The research, entitled “Numbers, Shapes, Geometries, Models. From the Measure the contemporary project of re-use”, started in 2016 with a Survey-and-Project workshop of an eighteenth-century building in Castri, a small town in Salento (Puglia). We experimented with a method applicable to various scales, which takes at its basis the analysis of the geometries and the logical-compositional structures of the pre-existing architectures, to be used as a memory for the project of reuse, and for the regeneration of historical sites that have lost their character over time. The research consists in the study of the cultural and geographical context, in the description of the historical buildings and of the soundscape aspect of the places, in the following geometric analysis from which to derive the historical measure to layout the new projects. We therefore studied what the relationship is between knowledge of space and its practical use, between rational control of the problematic nature of measurement and the geometric representation of simple or complex shapes and the processing of the project, between mathematics and architecture, two disciplines that express contemporary thought, knowledge, and the adoption of new paradigms.

Keywords Geometry · Design · Measurements · Number · Rhythm

Introduction. The Measure and the Project

In the field of structural invention, it is easy to identify examples of clear geometric derivation: lattice structures, tensile structures, geodesic domes, or other geometrically definable forms. However, this issue pertains to the field of construction technology and therefore to the sphere of application of mathematical tools at the construction of architectural objects.

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If, on the other hand, we wish to investigate the inner compositional structure of the project that appears hidden, we must identify those basic elements that are fundamental tools to convert the idea into form, without which another principle, also of a mathematical nature, takes over: the one that entrusts the composition to chance.

Chance (or at most chaos) regulated by a stochastic structure, was theorized and then put into form by Iannis Xenakis, who was a pioneer in compositional research that brought together space and sound (Xenakis 1963).

This compositional model often concerns an incompressible, fluid process, of design thinking, which replaces the uniqueness of the work with the uniqueness of the event.

This method necessarily involves a reflection on the different phases of the project, regulated by a geometric structure placed on purpose at the basis of the compositional idea. On the contrary, the process may not be regulated by a codified succession of countable procedures, nor by logical sequences ordered by premises and consequences, but by an appearance of randomness that arises from the occasional needs of the design which manifests a widespread tendency to exhibit temporary juxtapositions, provisional combinations, rigorous inductions and deductions, followed by sudden aphasia. An in-depth study of compositional practices and logics that does not place the two systems (that of geometric structures and that of randomness) in opposition, nor could it be a reason for aesthetic value judgments, could be of interest in the study of new paradigms in architecture, to be compared with those that Thomas Kuhn stated to be at the origin of scientific revolutions.

His book “The Structure of Scientific Revolutions” (Kuhn 1962), one of the most influential theoretical texts of the second half of the twentieth century, has over time assumed a role of reference in the modern epistemological debate not only in the philosophy of science, but also for theories of contemporary architectural research. By the term paradigm, Kuhn indicates the “universally recognized scientific achievements, which, for a certain period of time, provide a model of problems and solutions acceptable to those who practice a certain field of research” (p. 10, in the Italian edition of the book). The field of study always concerns the connection between logic and compositional structures, indicated in short with the binomial *architecture and mathematics*.

From a geometric point of view, our research-method, which combines historical measurement with contemporary design, involves reflection on the concept of “equivalent form” and of “invariance”, the latter assumed as a guiding principle that goes beyond the concept of a rigid and fixed “rule,” remaining open and dynamic. The concept of equivalence is consistent with the evolutionary process of contemporary architecture project, and it is even more appropriate in the information technology era, which offers tools for developing digital survey models and design models.

The project of an agri-camping at Melpignano here presented, based on this geometric mathematic method, gives origin to a proposal to reshape the whole area in which the concert of folk music “La Notte della Taranta” takes place, in the framework of a masterplan set up to be also at the base of other future projects.

The Cultural Context. Myths and Rituals Through Numbers, Music, Historical Monuments

Before tackling the description of the design process linked to the interpretation of the measures deriving from the survey of the historical buildings, it was necessary to take stock of the cultural environment and history of the place. The phenomenon of tarantism (Taranta is the common name of a particular species of poisonous spider: the *Lycosa tarantula*), existed until a few decades ago within the geographic area of South-Italy. It is a hysterical cultural syndrome, which in popular tradition is linked to a pathology caused by the spider bite. Tarantism, which occurred above all in the summer months (the period of wheat harvesting in Puglia), consisted of symptoms of general malaise, such as states of prostration, depression, neuropsychological pictures such as catatonia, abdominal or muscular pains, and most of the subjects reporting these symptoms were women. The traditional "cure" is a choreutic musical therapy. The person is brought to a state of trance during frenetic dance sessions, giving rise to a phenomenon that has been called "musical exorcism", studied since the end of the Fifties by Ernesto De Martino and Diego Carpitella, renowned Italian ethnomusicologists (De Martino 1961; Agamennone 2008).

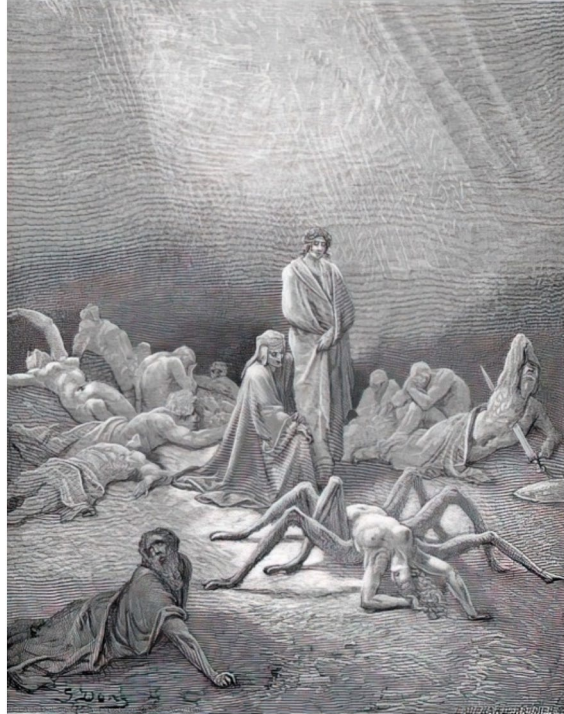
In parallel, we have studied the fundamental meaning attributed to numbers, which goes beyond the importance of geometry and proportional relationships. It concerns the storytelling part of architecture, not without value in linking geometry and design to philosophical and symbolic questions. The octagon is one of the few polygons inscribed in the square that can be constructed with the theorem of the half-space described by Plato. The number eight is universally considered the number of cosmic balances. Rotated 90 degrees, it becomes the symbol of infinity: ∞ . Eight are the musical notes of the Islamic scale, and the "tempo" of the Pizzica, the traditional dance of the "choreutic musical therapy", is 1/8.

The number 8 itself has a strong Christian meaning, being associated with the eighth day, which represents the resurrection of Christ and the new creation. It is a symbol of eternity.

The reference to the number 8 and to the arachnids with 8 legs and to the spider's web takes us back to the myth of Arachne, the fabulous creature skilled in weaving, central character of the sixth book of the Ovid's *Metamorphoses*. The story reports a fight between Arachne and Athena: the first, so talented to refuse to admit she learned the art of weaving from Athena, claimed that it was the goddess who learned from her. So self-confident that she challenged Athena to a duel, but an old woman appeared to Arachne, advising her to withdraw the challenge so as not to provoke the goddess's wrath. When she refused, the old woman revealed herself to be Athena, and the contest began. Athena became furious when she saw Arachne's work, destroyed the web, and struck her with her shuttle. In despair, Arachne hanged herself, and the goddess transformed her into a spider, forcing her to spin for the rest of her life as punishment (Fig. 1).

The grid that organizes the masterplan and the number 80 are to the projects for Melpignano what the web was to Arachne, as we will see in the next descriptions.

Fig. 1 Arachne in an engraving by Gustave Doré for the twelfth “canto” of Dante Purgatory. (Public domain)



All this briefly stated, the intervention of regeneration of a cultural asset in a landscape with strong historical values can also go through an important figurative transformation and should be considered in all its potential, not only to simply return the asset to the community but, from the theoretical point of view, it also stimulates indications on the concept of “equivalent form” and of “invariance”. Both are strictly related to the question of persistence of form, that means that fundamental mathematical configurations do not change. Moreover, this stability is required to find and determine the significant forms hidden within complex data, crucial in applied areas like Topological Data Analysis (TDA). In his mathematical essays, cognitive psychologist Michael Leyton (Leyton 2006) proposes to consider *form as memory*. What, then, is invariant in certain geometric transformations of form that seemingly lose touch with the original configuration? From the introduction of his book “Form as Memory. A Geometric Theory of Architecture” Leyton tells us that the geometric part of an object is that aspect that preserves information about past actions. According to these new foundations, an object, from which information about the past can be retrieved, can be considered a *memory device*. Therefore, what Leyton proposes, and which flows into the design reflections of this research, is that form is the medium through which past actions are preserved, because form is full of its own history.



Fig. 2 The Augustinian church: front view



Fig. 3 The Augustinian church cloister: a glimpse of the interior of the cloister

The Ancient Convent of the Augustinians. Survey and Geometric Analysis for the Project

The ancient convent of the Augustinians is the symbol of the small community of Melpignano (Cazzato, Peluso 1986), and together with the space in front of it, it is the place that links history, culture, and tradition (Figs. 2, 3). Each second to the

last Saturday of August, it is the evocative setting of the "Notte della Taranta", the biggest folk music festival in Europe, which welcomes hundreds of thousands of people from every corner of the world.

We began to study this building because it is a symbolic monument standing as the backdrop to the concert stage scenography. The church is dedicated to the Madonna del Carmine and the façade is attributed to the famous seventeenth-century architect Giuseppe Zimbalo and to the chief architect Francesco Manuli, who is also the author of the portal of the Ducal Palace of Castri di Lecce, that was one of the first case-studies of our research.

A dedicated survey campaign was needed to identify the historical system of measurement used in the design and iconography of the convent.

For the measurement collection campaign, traditional tools were used, integrated with a 3D *disto-laser* for a three-dimensional photogrammetric survey campaign. The result of the integration of various methods and systems is a survey model of excellent metric quality that allows for the comparison of the significant measurements of the architectural object, taken in meters, and, through a specific analysis, the possible historical metric unit is identified. The next step was to investigate the city's urban design for a planimetric evaluation. This type of analysis involved the use of a 1:5000 scale orthophoto plan, and thanks to the on-site measurements, it was possible to identify a grid that clearly indicates the primary urban design strategy. All the manual and photogrammetric survey-tools were extremely useful for the research. Without this precise and well-structured data, the underlying principles of the project, both historical and contemporary, would not have been identified.

The *ad quadratum* (Wu 2017) scheme, also traced in other coeval convents of the *Grecia salentina*, such as the Franciscan one in Martignano, is also the generating form that we can find in the cloister of the Augustinian Convent, with a nine-arched balcony. The cloister is square, with sides measuring 21.06 m. The axis of the church features an orientation of 40.09° 16 N, 18.17° 16 E (Fig. 4). The width of the church is 11.10 m, and its total length is 28.07 m (Fig. 5).

The historical unit of measurement is the Neapolitan Palm equal to 0.26367 m, with its multiples and submultiples: i.e. the "canna per stoffe" is 8 palms. This unit of measure is the same as the other buildings that we have studied in the framework of the research to set up the geometrical grid for projects of reuse and masterplans for new architectures.

If we convert the surveyed dimensions of the cloister, taken in the current metric system, into Neapolitan Palms, the side of the cloister is 80 palms (10 canne). The cloister complies with the rule described by Villard de Honnecourt (Villard de Honnecourt 1859) in his notebook according to which the area of the covered part of the cloister must be the same as that of the uncovered part (Fig. 6). The size of the church derives from that of the cloister; in fact, the module of the church is 1/6 of the side of the cloister. The geometric re-construction of the plan shows that the width of the church is in golden ratio with its length, as shown in the drawing (area highlighted in light green—Fig. 5), which illustrates the graphical and proportional construction of the golden rectangle. Some rooms arranged along the cloister are modulated by generating a double square area with respect to that of the cloister. Moreover, the module of the

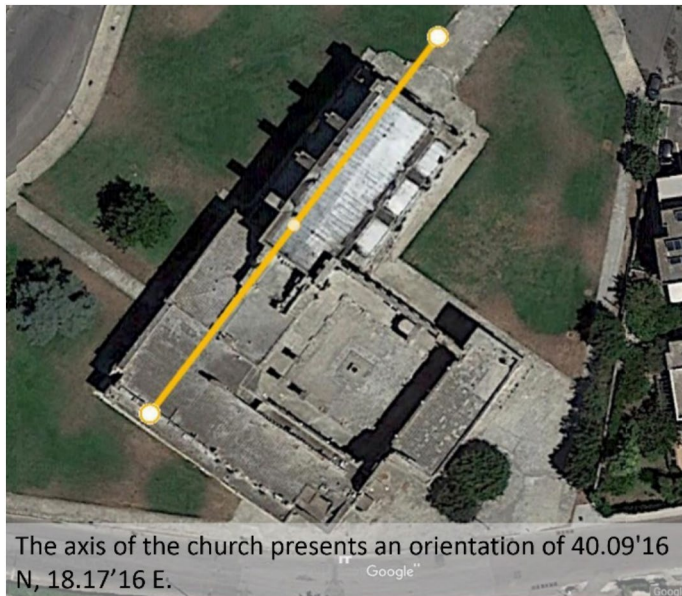


Fig. 4 The Augustinian church and cloister aerial view with the measurement of the orientation

church defines the other rooms contiguous to the cloister. The 8-palm “canna”, and its multiple equal to 80, also builds the generating principle of the Melpignano Marquis Palace, which rises in the historical center of the city, on the corner of an important fifteenth century defensive walls recently restored.

The survey analysis and derived measures of these two monuments, the Augustinian Convent and the Marquis Palace, identify two grids that have a mesh of 80×80 palms. The grids have different directions and intersect, generating hinge points. In fact, by considering grid 1—the Convent grid—the primary specific direction is identified; grid 2—the Palace grid—has a direction that diverges from the first; the intersection of these two directions generates the first hinge point, which is essential for interpreting the topographic connection. This methodological approach, often based on topographic surveys and photogrammetric rectification, makes it possible to reconstruct the underlying planning logic of historic monumental complexes. and extend it to urban grids, which generate additional hinge points at their points of convergence.

This system of road axes and links that reconnect the three symbolic points of Melpignano (the Augustinian Convent, the Marquis Palace and the Piazza San Giorgio) are also a useful tool for recomposing our masterplan (Fig. 7).

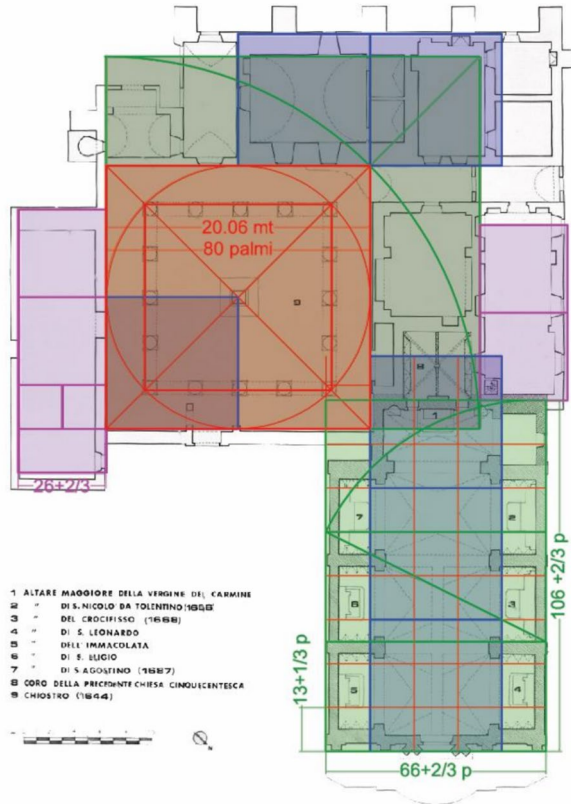


Fig. 5 Geometric plan *ad quadratum* of the Augustinian Convent in Melpignano

The Shape of Continuity: Rhythm and Measurement to Outline the Agri-camping

The project, together with the survey and analysis of the areas of the city, is the demonstration of the prime hypothesis of the research about the "exact measure". In addition, the combination of the geometry of the square with the number 8—and 80 as a significant multiple—has a high symbolic value.

The 80 Neapolitan Palms measure of the module and the recurrence of the number 8 that we can find both in the bodily characteristics of the icon of the spider and in the rhythm of the Pizzica dance, allowed us to create a geometric grid structuring the masterplan *ad quadratum*. So, the agri-camping is set up according to the submodule that draws the housing module with its variants, the services, the layout of the open space.

The grid resulting from the historical measure was also used in other projects developed in the framework of the research on free areas around Melpignano: a small school of music and folk dances, the market stalls in the market area that we

Fig. 6 Measurement and survey analysis, compared with the instructions to draw the cloister in Villard de Honnecourt's notebook

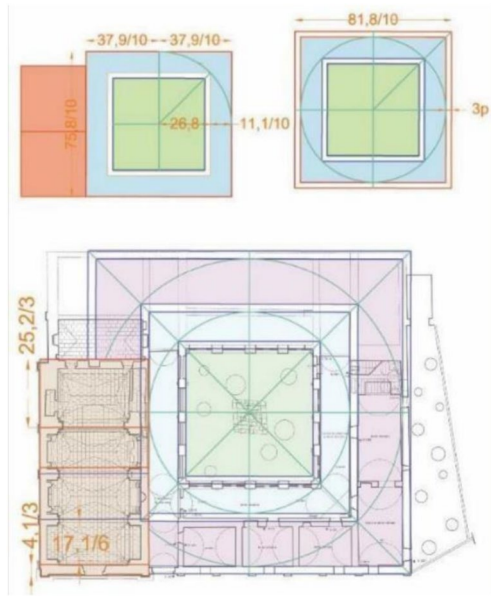


Fig. 7 Location on the map of Melpignano of the areas involved in the study of historical measurement as the foundation of the contemporary project. 1: indicates the area for the concert, composed of two square macro-modules; 2: the area of the Marquis Palace, along the walls of which the weekly market will be reorganized; 3: the selected area for the agri-camping. The Augustinian Cloister, which is the basic unit of measurement, is filled in yellow

imagined to bring back in the historic center nearby the walls of the Marquis Palace, the kiosks for touristic services such as the info points conceived as landmarks in the center of the city and along the main streets of the Salento region.

As a proof of the theoretical assumptions, we adopted the historical measure for the project of the agri-camping in a vacant area on the edge of Melpignano. This masterplan includes all the tourist facilities that incorporates the area for private camping tents in the middle of housing modules of variable modular size, with modular orchard to individually take care which is part of the holiday experience, and a mini-market with bar-restaurant with recreational annexes. The complex of the agri-camping and all the other projects are directly connected to the history of the site linking the tradition of the “choreutic musical therapy” and of the symbol of the number 8 with the surveyed measure. Music intervenes as matter of the project, both because of the evocative presence of the “Notte della Taranta” event, which is one of the most significant musical events on popular culture in Europe, and mainly because of the implications that numbers and geometry entail in the composition of music, in the wake of the very ancient tradition that binds in the *quadrivium* (Leyton 2006) these disciplines.

The work carried out as part of our research on certain buildings from the Middle Ages to the Baroque period (Mele 2012a, b; Capanna, Mele 2017) has identified a compositional process in architecture similar to that used in the ancient Rome, according to which, in the *quadrivium*, the four non-literary branches (arithmetic, astronomy, geometry, and music) of the seven liberal arts are explicitly defined in the teachings of the mathematician Pappus of Alexandria, following Vitruvius, as an expression of the theoretical and applied nature of architecture.

On the role of numbers, which goes beyond the unavoidable importance of geometry and proportional ratios, which are the designer’s basic mathematics, we introduce, in this case, a reflection concerning the narrative aspect of architecture, not without value in both architectural and musical composition. The latter is embodied in the evocation of images, first in the composer’s mind and then in the listeners’ perception. Respectively, architecture adopts it in the meaningful, metaphorical, conceptual part of its conception.

This compositional method therefore engages in a sort of determinism that looks to nature and contexts in order to understand their rules and language and accordingly be able to replicate them. In so doing the contemporary design is an element of continuity with tradition because the ideas and philosophies on which projects are based have an immanent character, which has nothing to do with the imitation of styles.

Genesis of the Masterplan

The second and third schemes indicate the location of the projects developed for Melpignano in the research: R restaurant; C camping; M market; F Taranta festival; T theater; P parking; E modular elements; Mu music school.

The square areas of the historical sites and of the main project of the agri-camping are identified on a system of three rotated grids. The first project scheme

of the masterplan shows the location of the square areas (Fig. 8—on the left); the second and third very first sketches indicate the hypotheses of the location of all the projects (Fig. 8—central and on the right) The first diagram shows both the historical monuments and the areas identified for the projects, with the crucial connections along the existing roads. The ancient Convent of the Augustinians, the area of the ancient walls of the Marquis Palace, Piazza San Giorgio, which is measured at 80 palms, as is the cloister of the Augustinians, show a recurring use of geometry and historical measurement over time and represent the heritage of the site. The grid allows us to set the position of the project areas, which are proportionally sized and located accordingly: the number 4 in the Fig. 8 highlights a large area, made up of two macro-modules that we propose as a new area for the concert in front of the Augustinians Convent, beyond the road connecting Melpignano with Maglie, which is one of the main access points to the festival and the number 6 outlines other two macro-modules for the agri-camping project.

The second and third sketches represent all the projects we produced with this method.

In parallel with the drawing of the general masterplan, the grid provides for a pedestrian upstream of the green area surrounding the convent, proposes a new screen for the concert and some touristic services, including the housing modules and catering services for the agri-camping, with the characteristic truncated cone roofs with a square base which are the final result of the process of simplification of the shape that adopts the historical measure as a multiscalar demonstration of the measure theorem for the project (Fig. 9).

The major squared areas are multiple of the basic module of 80×80 palms.

The concept of the project that adopts the geometry of the square as the generating shape of the *forma urbis* in the large voids highlighted in the conceptual masterplan, is completed up to the furnishing elements. Some of the very first sketches show the idea for info-points and small service volumes that we called “elements” (Fig. 9), geometrically generated by the rotation on the central axis of square figures of decreasing size upwards. This volume has a-scalar characteristics in its original concept and, in fact, although it was initially intended for minimal-sized architecture,

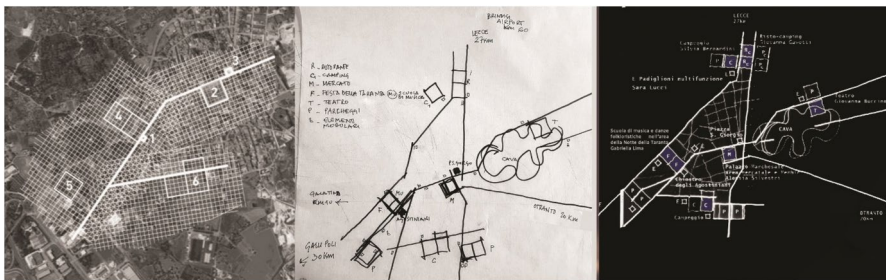


Fig. 8 Genesis of the masterplan. The square areas of the historical sites and the system of three rotated grids. The first project scheme of the masterplan indicates the location of the square areas: 1 Augustinian Convent; 2 Marquis Palace; 3 Piazza San Giorgio; 4 Area of the Concert “La Notte della Taranta”; 5 Parking area for the concert; 6 Area for the agri-camping

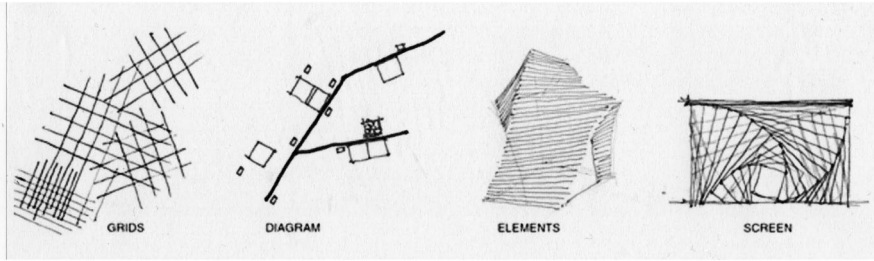


Fig. 9 First sketches: from the grid to the design elements

possibly temporary and reusable, it is also well suited to the concept of temporary or semi-permanent housing modules for the agri-camping project.

Setting up the new stage for the Taranta concert is one of the many projects included in this masterplan *ad quadratum*. The first idea of a wide screen for the stage is conceived as generated by the graphic rotation of square elements of increasing size superimposed on two planes. This backdrop for the temporary stage set is traditionally inspired by the spider graphic concept whose geometric features are generated with effects of colored lights that change with the rhythm of the music. This first idea for the new screen follows the concept *ad quadratum* evoking a strongly structured spider web whose figurative origin is a central square of 8 Neapolitan Palms, repeated, rotated and proportionally enlarged up to the base of 80 palms (about 2140 cm or 21.4 m) that could seem a very large overall dimension, but it must be compared to that of the stage set up for the 2024 concert which reached a width at the base of approximately 33 m.

This project for the screen proposes a more abstract drawing, but close to the reference shape of the spider as well, which is the festival “leitmotiv”. A spider’s web for the new stage, in our opinion, is much more abstract and conceptual with respect to the spider’s legs for the lighting set of the stage of the 2019 edition (Fig. 10).

Demonstration and Proof of the theorem. The Agri-camping

The module for the agri-camping is the “evolution” of the first idea for “the element” which was more complex in terms of shape and of consequent construction. The basic element now is a cube with a side of 16 palms (4.2 m), surmounted by a slanted truncated pyramid-shaped roof. In the first design scheme, for the basic element, the volume was completely inscribed within a cube with a 16 palms square base. The camping housing module was first conceived as generated by stacking square-based elements of minimal thickness, progressively rotated and decreasing in size until reaching the central 4-palms square hole at the top of the roof (Fig. 9 elements).

In this module, there is no distinction between walls and roof, and the continuity of the geometric development, starting from the flat surface of

Fig. 10 The "La Notte della Taranta" concert: the big screen in a photo from August 24, 2019



the basic square, generates the three-dimensional volume. The basic housing module designed for the final solution of the tourist complex (Fig. 11) is instead composed of two cubes stacked on top of each other: a cube with a side of 16 palms (4.2 m), surmounted by a slanted truncated pyramid-shaped roof inscribed in the upper cube. From the verification of the three-dimensional model, both from the point of view of the perception of the interior space and from the point of view of the energy efficiency produced by the convective air movements that allow a passive climate control system, the height of some of the roofs for the assembled modules of the restaurant and the mini-market were brought to one and a half height or higher, using multiples and submultiples of the size of 8 palms, with a base of 4 modules. The slanted truncated pyramid could have an elevation equal to $16+8$ palms, $16+4$ palms, $16+12$ palms, according to the needs of the mechanical circulation of the air to produce a comfortable internal microclimate and a dynamic and varied external view (Fig. 13).

The sketch of the section (Fig. 12) highlights in particular two elements of the design: the correspondence with the shape of the first idea (the twisted cube), in

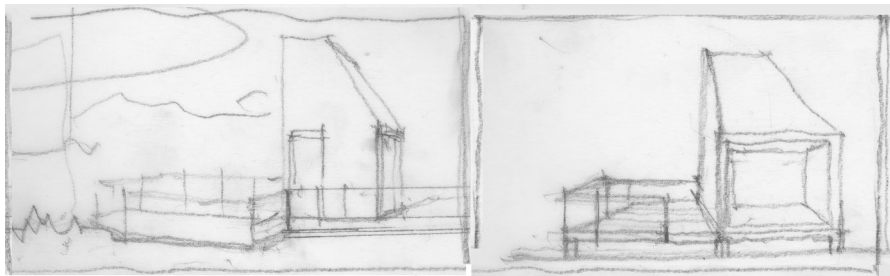


Fig. 11 The idea of the camping module with a large front window overlooking the landscape

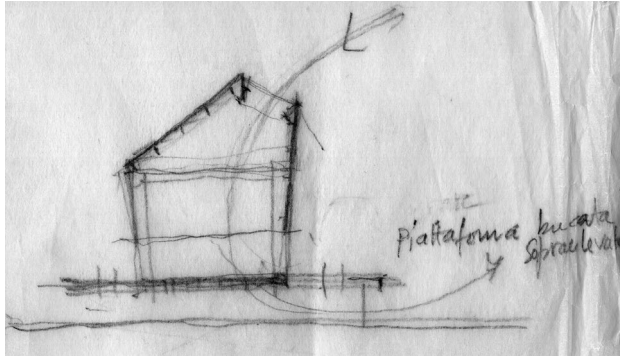


Fig. 12 Standard section with air circulation diagram

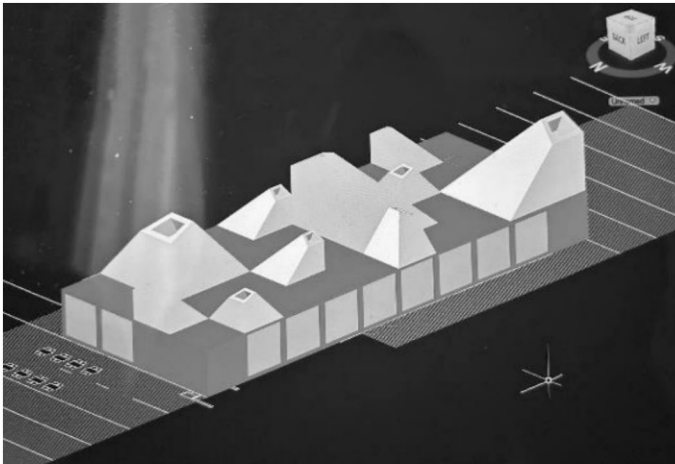


Fig. 13 The RistoMarket

terms of invariance, mathematically defined as equivalent form, and the memory of the iconic shape of the Apulian Trulli roofing.

This figure/measurement is repeated for the large square window on one side and the squared deck, where the access to the room is located, as well as for the square generating the irregular truncated cone-shaped roof volume and for the connecting parts of the decks to each other, and to the adjacent related orchards, which are the square mesh that tiles the floor, alternating with the paths and paved areas. The modules and their multiples and submultiples define the floor plans of all the parts, from the RistoMarket block to the public, shared restrooms, to the field for camping tents and the agricultural areas for the RistoMarket, all locally sourced to meet the individual needs of the single modules (Fig. 13).

Some features of the agri-camping architecture, which make the entire project up—to-date and sustainable, consist of the correct inclination of the square hole

in the roof and the platform raised above the ground, which is suitably perforated. This platform allows the modules to be assembled and disassembled as needed and defines also the pattern of footpaths and for vegetable gardens at a lower level.

General Plan of Agri-camping

Once developed the basic element of the project, as a verification of the project's scope, the next step is to go back to the development of the masterplan.

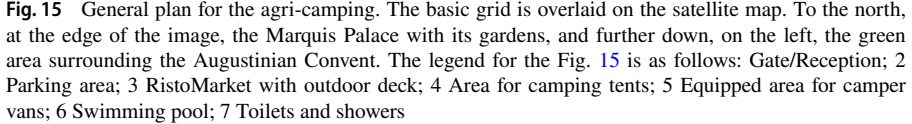
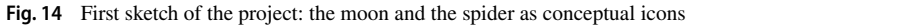
The basic grid is drawn in the whole site, thus defining all the areas for which the projects are to be developed. In the two lots (Fig. 8—number 6), the 80-palm-square-grid supports the conceptual scheme of the campsite, like an invisible layer useful to trace an initial design in which the symbols representing the musical event (the spider and the moon) and the paths that allocate the functionally differentiated areas of the campsite are superimposed.

The images of the moon and of the spider overlap the grid, re-drawing it: the 8 large traces on the ground of the main avenues deviate from the straight line, curve, become the 8 legs of the spider and converge in the empty central area of the agri-camping available for tents which is the body of the arachnid; to the east, the “Bosco della Luna” (Moon Forest), which borders the sites of the Lecce stone quarries, embraces the vegetable gardens and orchards, is crossed by the road that enters Melpignano from the south, running alongside the walls of the Marquis Palace, and welcomes the picnic area in a clearing inside the forest (Fig. 14).

The first geometrically structured drawing of the general plan is drawn layering the historical grid and satellite-map (Fig. 15).

The Elements of the Project—Wooden Housing Modules

The buildings are all based on the module of 8 palms, converted into the metric system to 4.2 m (Fig. 16). The basic module is a cube with sides measuring 4.2 m with an outdoor deck of the same size. This smallest unit is a two-person bedroom with a bathroom. All entrances are from the deck, which is an extension of the living unit, and it also gives access to the attached vegetable garden. The decks are connected by walkways $\frac{1}{4}$ of the width of the module according to a flexible scheme outlined in the general plan as possible placements of the units, which can be assembled as needed. Many variations are possible: for example, by sliding the deck forward, the $\frac{1}{2}$ housing module allows for a small kitchen adjacent to the bedroom module, thus becoming a space for outdoor dining, with the option of adding a flat shade roof next to the cone-shaped bedroom roof. The three-module version creates a complete mini-apartment with variant accessible to guests with disabilities (Fig. 17).



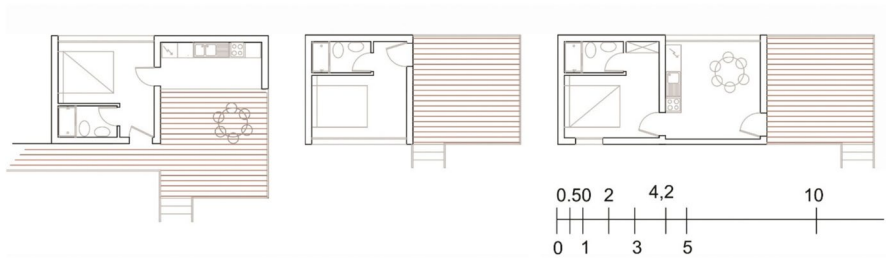


Fig. 16 Plans of the housing modules. Each unit is equipped with an external space of the same size as the module



Fig. 17 Development of the module with variant for people with different abilities and scheme of the front view

The Other Elements of the Project—the RistoMarket

The vast agri-camping area includes various collective activities: a building that combines a minimarket, a restaurant, and a bar into a 10×4 -module volume. This volume is complemented by two large decks on opposite sides, providing refreshment services for many additional outdoor tables, covered by shade canopies. In this case, too, the modular outdoor system allows for vertical walls to be enclosed to increase interior space and for additional outdoor modules (Fig. 18).

The 3D views show possible combinations of the housing modules and the service system, characterized by varying the size of the roofing cones and their orientation with respect to the light and heat of the sun and prevailing winds (Figs. 19, 20).

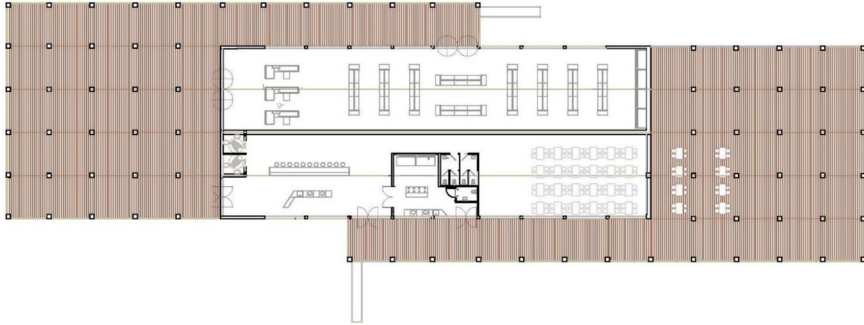


Fig. 18 The module in the variation for the RistoMarket and outdoor deck



Fig. 19 Views from the agri-camping

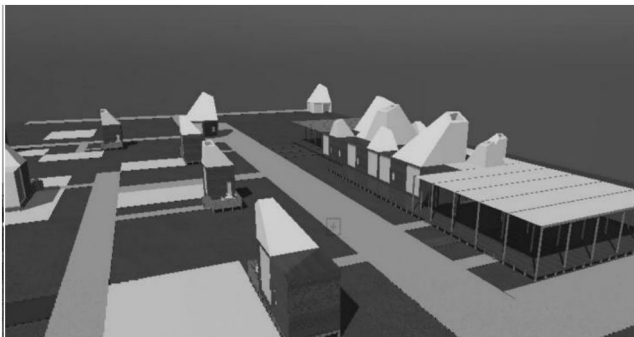


Fig. 20 Views from the agri-camping

Conclusions

The stories that a holiday place can tell, while obeying the definition of heterotopias sought and found in the freedom of timeless life, can be part of a concrete possibility

of considering form as memory.

Back to Leyton, this method is a demonstration of the theorem of geometry and measurement applied to the project.

Since the introduction of his book "The form as memory. A geometric theory of architecture" (Leyton 2006), Michael Leyton introduces the "NEW FOUNDATIONS OF GEOMETRY: The geometric part of an object is that aspect which preserves information about the past action. Thus, according to these new foundations, geometry becomes equivalent to the preservation of memorials" (p. 9 Italian edition).

The project for the agri-camping for the "Notte della Taranta", systematizes the hypothesis to ground contemporary architecture on a grid based on the historical measure. Number, measure, and geometry reinforce their role as useful tools to structure new projects in the framework of a masterplan. The strong geometrical-mathematical composition links the formal contemporary solution to the philosophy of the historical measure verified in the context of the Salento region, as it is evidenced in all the previous "survey-and-project" experiences that we developed in Acaya, Sanarica, Castri (Capanna, Mele 2019), Pispignano, and Melpignano.

In historical contexts, by adopting this method, it is possible to avoid the debate on the adoption of a figurative system of low impact, or even to conform new projects to an imitative approach to the historical monuments, as well as speculate about the level of reinterpretation compatible with the context.

The "measurement theorem" adopted for Melpignano, of which here is presented only one among the number of hypotheses of survey-and-project in the geographic context of Salento region, is therefore a project for a sound space for large square areas on the edge of the historic city, to remodel the site of the concert for the Taranta festival. From the historical measure derives an abstract, foundational grid, that activates the contemporary project of reconnection of the historical areas.

It is a verification of the method which adopts the theorem of the historic measure for the project linking geometry, numbers and music, in terms of rhythm of the composition.

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