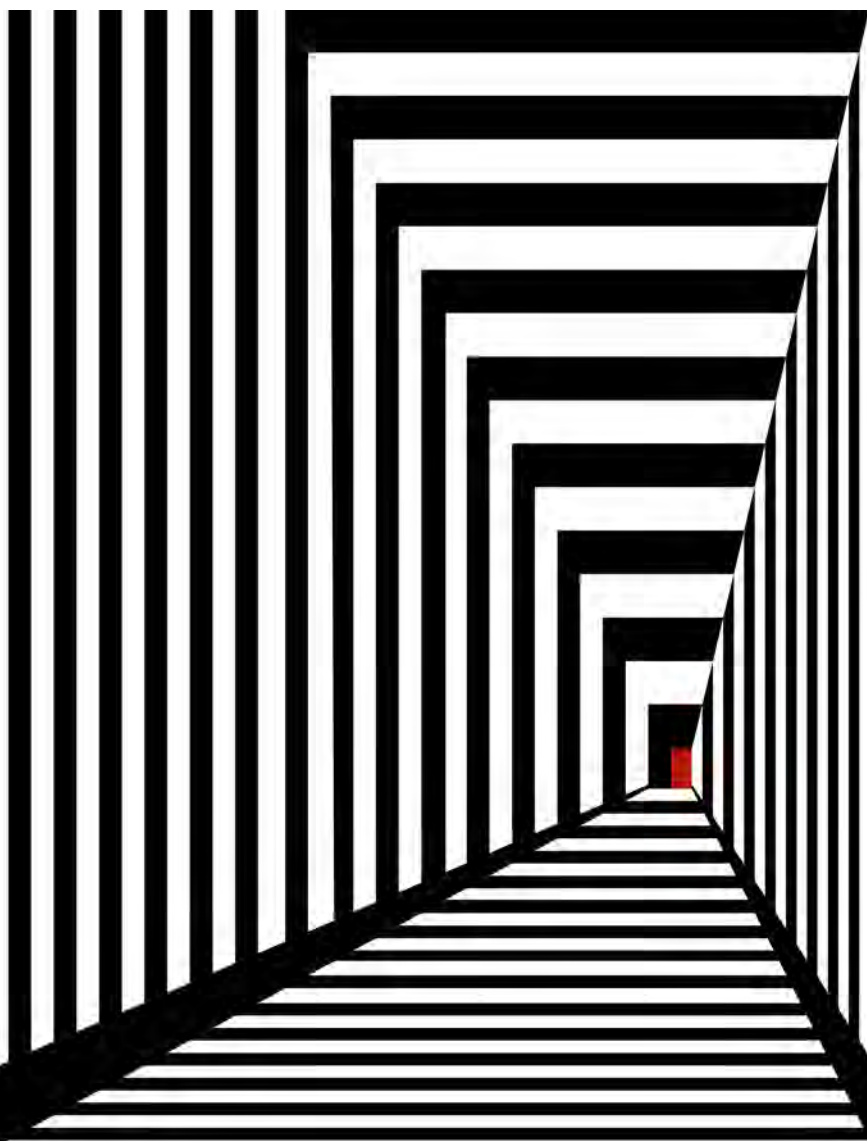


De_*Sign* Environment Landscape City

a cura di Giulia Pellegrini

2019



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De- Sign Environment Landscape City_ 2019

a cura di

Giulia Pellegrini



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Una giornata, a livello internazionale, nell'ambito del progetto Di-SEGNARE, certamente importante per gli studenti, gli operatori, ma anche per la città; per questo motivo ringrazio Chris Bangle per la sua Lectio Magistralis e auspico una rinnovata collaborazione con l'Università, nello specifico con il dipartimento di Architettura e Design_DAD scuola politecnica Ingegneria Architettura di Genova, che ha organizzato questo incontro. Una giornata di studi sicuramente importante anche per il Comune, che è l'Ente preposto alla programmazione, alla gestione e allo sviluppo del territorio urbano e dei suoi servizi. Azioni, quelle poste in discussione, che si riversano su tutto l'indotto culturale, economico e turistico della città come stabilito anche dal "codice dei Beni Culturali e del Paesaggio". I Colori e il disegno rappresentano le basi per la valorizzazione e la conservazione dei nostri beni architettonici, in parte riconosciuti dall'UNESCO e sede di alcuni nostri prestigiosi Musei, ma anche della maggior parte del nostro territorio. Non possiamo infatti dimenticare alcune zone della città, in particolare quelle che hanno conosciuto lo sviluppo industriale degli anni '60-'70, pur conservando al loro interno importanti plessi storici. Fra queste anche quelle portate all'attenzione dalla tragedia del ponte Morandi, che ha messo i riflettori sulla quotidianità di questi quartieri genovesi, per cui stiamo lavorando con l'obiettivo di migliorare la vivibilità e l'estetica di queste zone, grazie anche a nuove forme artistiche come il graffitismo o anche a nuovi percorsi organizzati alle fortificazioni della città.

Ringrazio quindi tutti gli organizzatori di questa importante giornata di studi che certamente porterà a nuove idee e prospettive per il decoro di Genova.

Barbara Grosso

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An international day, within the De-SIGN project, certainly important for students, operators but also for the city; for this reason I thank Chris Bangle for his *Lectio Magistralis* and I hope for a renewed collaboration with our University, specifically with the Department of Architecture and Design_DAD Polytechnic School of Architecture of Genoa, which organized this meeting.

A day of studies is also of importance for the Municipality, which is the body in charge of planning, managing and developing the urban territory and its services. Actions, those brought into question, which are poured on all the cultural, economic and tourist satellite activities of the city as established also by the "Code of Cultural Heritage and Landscape". The Colours and the design represent the bases for the promotion and the conservation of our architectural assets, partly recognized by UNESCO and home to some of our prestigious Museums, but also to most of our territory.

We cannot forget some areas of the city, in particular those that experienced the industrial development of the 60s and 70s while retaining important historical buildings, including those brought to the attention of the Morandi bridge tragedy. The event put the spotlight on the everyday life of these Genoese neighbourhoods, for which we are working to improve the livability and aesthetics of these areas, thanks also to new art forms such as graffiti art or even to new routes organized at the city fortifications.

I therefore thank all the organizers of this important day of study that will certainly lead to new ideas and perspectives for the decorum of Genoa.

Barbara Grosso

Assessore al Marketing Territoriale,
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Procedural applications of chromatic values in normative matters: the village of Zuccarello

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Abstract

The gradual and widespread interest in the elements that characterize the historical identity of the city has led to new stimuli for the municipal administrations, which have profoundly renewed the urban planning instruments by launching programs for the restoration and enhancement of historic centres. The Color Project, aimed at restoring the chromatic values of a specific urban nucleus, through understanding, and the enhancement of architectural and typological characteristics, is one of the urban planning tools that have most affected scientific research and has undergone important changes over time.

Paradoxically, one of the most obvious consequences of many “restorations” in historic centres is the trivialisation of the original image of the building’s characteristic elements, such as plaster, colors and other “chromatic ensembles” and of street furniture, effectively escaping the specification legislation designed to regulate the interventions or to not complete integration with other urban planning regulations. In particular, the importance of the management of the overall image that is formed by the overlapping and coexistence of several procedural applications in the normative field is more evident in the smaller urban centres. Specifically, the article investigates, through the case study of the Color Project of Zuccarello (SV), the perceptive chromatic re-reading of the building fabric, not only through two-dimensional representation, but also with the aid of photogrammetry and modeling, a three-dimensional representation, for a complete definition and connection with all the elements involved.

Abstract

Il graduale e diffuso interesse per gli elementi che caratterizzano l'identità storica della città ha comportato nuovi stimoli per le amministrazioni comunali che, hanno rinnovato profondamente gli strumenti urbanistici avviando programmi di recupero e valorizzazione dei centri storici. Il Progetto Colore, finalizzato al recupero dei valori cromatici di un determinato nucleo urbano, attraverso la comprensione, e la valorizzazione delle caratteristiche architettoniche e tipologiche, è uno degli strumenti urbanistici che maggiormente ha interessato la ricerca scientifica e che ha subito importanti modifiche nel tempo. Paradossalmente una delle conseguenze più evidenti di molti «recuperi» nei centri storici è la banalizzazione dell'immagine originaria degli elementi caratterizzanti l'edilizia, come gli intonaci, i colori ed altri «cromatici» e di arredo urbano, sfuggendo di fatto agli insiemi specifica normativa atta a disciplinarne gli interventi o alla non completa integrazione con le altre normative urbanistiche. In particolare, l'importanza della gestione dell'immagine complessiva che si viene a formare dalla sovrapposizione e compresenza di più applicazioni procedurali in materia normativa, si evidenzia maggiormente nei nuclei urbani minori.

Nello specifico l'articolo indaga, attraverso il caso studio del Progetto Colore di Zuccarello (SV), la rilettura percettiva cromatica del tessuto edilizio, non solo tramite la rappresentazione bidimensionale, ma anche con l'ausilio della fotogrammetria e la modellazione, una rappresentazione tridimensionale, per una completa definizione e connessione con tutti gli elementi coinvolti.

New representative methodologies in the management of color projects

The normative management of the color projects and of the graphic-design elaborations linked to the identification of the peculiar characters of the places is investigated in this article, bringing for example a case study result of the Research Agreement stipulated between the Cts_ColorLab, for which the writer is responsible, and the Municipality of Zuccarello¹.

The research activities carried out within the Color Laboratory are aimed at the integrated survey of buildings, using advanced instrumentation (drone- three-dimensional elaborations- holographic visualizations- realistic simulations) in relation to the chromatic values of historical and modern buildings.

The age-old problem for the protection of buildings, also under the visual-perceptual chromatic aspect of the places and the recovery of the design and chromatic characteristics, is treated here in the awareness that the management of the works should allow the continuous updating of the data in the congruence of the changing building materials. Due to its change, subject to continuous transformations in the urban environment, it still remains an evolving field for studies and evolutions on possible approaches that not only fill what may be discrepancies or alignments with current legislation, but which allows an even more evident connection with the perception of the urban landscape in its entirety.

In Italy, not all Regions have adopted laws referring to the theme of color, among those already

¹ The chromatic values of the Historic Center of the Municipality of Zuccarello (SV): identification of the optimal tools for the acquisition of color data in construction; geometric metric relief; graphic restoration and chromatic design hypothesis. Scientific responsible : G.Pellegrini, Operative responsible F. Salvetti.

consolidated we can include Liguria, the Color Plan of Turin city of 1997 extending, at the methodological level, now to all the municipalities of Piedmont, Region Campania Public building Regulations for the implementation of regional law 18 October 2002, no. 26: “Rules and incentives for the enhancement of the historic centers of Campania and the cataloging of environmental heritage and of landscape quality”, amendments to the Regional Law of 19 February 1996 n. 3, and the Sicilian Region Law with the” Plan of the Color of the Urban Decor and of the Landscape for the Cities, Seas and Mountains of the Regional Territory”. In the absence of regional laws specific for the Color Projects, guidelines according to the government and protection territorial use, or the laws of protection by the Ministry of Cultural Heritage are being implemented. The Liguria Region with the law n. 26/2003 entitled “Color Cities”, which modifies lr 25/1987, considers as a fundamental value for the community, the decoration of buildings and of public spaces and it provides for the granting of contributions to the Municipal administrations that will use a “Color Project”. The project must identify both the materials, the colors and the pictorial techniques that are part of the local historical-architectural tradition, and the colors best suited to lighten the visual impact of large buildings².

The international conditions defined in 2000 by the European Landscape Convention and by the Reform of the Code of Cultural Heritage, respectively from 2000 and 2004, still today have not significantly influenced the specific management of data processing linked to representation and perception for the continuous implementation in the evolution and transformation of objective data on the conservation of chromatic values.

The three-dimensional modeling of objects in the urban environment is a rapidly growing field of research. The evolution of acquisition techniques and processing methods allows to adopt a simplified methodology, not only at the field work level, but also during the subsequent processing and post-production phase.

The current development of photogrammetry techniques, thanks to the evolution in the field of computer vision and in particular of the strategies from Structure from motion (SfM), are presented as a new generation of highly versatile tools accessible to the professional of documentation or protection. of heritage.

It also provides immediacy during documentation tasks, as it requires limited planning when it comes to placing photographic shots, as opposed to the laborious planning of shooting for traditional photogrammetry or the lack of operability of some equipment in certain working conditions.

The methodology addressed in this specific case gives rise to dense point clouds, it is very easy to connect with other workflows based on the virtualization of objects or scenes, regenerating mesh surfaces and photorealistic textures, as well as creating error-free orthophotos or orthoimages. of perspective.

As part of the Zuccarello Color Project, the in-depth analysis of the relief of the built heritage has highlighted how digital representation, for the knowledge of all the constituent elements of the building material, is a fertile basis for experimenting with new forms of visualization of places. represented.

The experience was aimed at deepening, through direct experimentation, some photogrammetric survey techniques compared to current image-based applications in the field of Cultural Heritage,

² G. Pellegrini, *Drawing the Color: Project - Rules – Suggestions*, De-Sign Environmet Landscape City, Genova, David and Matthaus collana Athaeneum, 2017.

to obtain high-definition three-dimensional reconstructions and models of the area under study. The experimented photogrammetry project had an essentially methodological purpose, which underlines the new potential of fruition and dissemination of scientifically collected data during the survey phase. One of the most interesting aspects of the application of relevant techniques, as a critical restitutor of the characters that make up the construction reality, with the instrumental potential offered the opportunity to return three-dimensional virtual models of the entire area with very high levels of detail.

SfM techniques are proposed as an important heritage documentation tool, not only for their important levels of geometric precision, but also for the accessibility and immediacy of this technique, whose levels of detail are conditioned exclusively by the resolution and the number of images used.

The figure of the professional in data management for the protection of color values related to perception is linked to the Gestalt principles applied to places. In this sense, K. Lynch's theory of figurability is perfectly linked to the three-dimensional visual modality of the city in the search for readability of the urban form also given by the comparison of the elements of the urban image identified in general in the systematization of the differences that can be listed as follows : routes, margins, neighborhoods, nodes and references.

The representation of the elements contributes to determining a systematic approach to the identification and determination of the urban image also linked to the chromatic aspect.

Plans and Projects Colour: Reference standards

The interest in the last fifty years for the protection of the visible and perceived aspect of the building, in its volumetric, design and chromatic characteristics, has been a topic widely dealt with both in the theoretical scientific and regulatory fields

The definitions and provisions on landscape introduced by the European Landscape Convention on 20 October 2000 and subsequently confirmed by the reform of the Code of Cultural Heritage Legislative Decree 42 of 22 January 2004, which introduced the importance of protection and the enhancement of the landscape as an identity of the entire community, including within it, from an anthropic point of view, the transformations that man has produced in the area with the built-up area, led to the evolution of the theme of color, defining it as an element of strong characterization of inhabited centers. It was in those years that the first regional laws were issued aimed at defining guidelines for the conservation, enhancement and maintenance of buildings and common parts of the existing heritage, in order to restore and guarantee the building fabric a recognizable identity and high urban quality.

In the twentieth century in particular, the role of color in construction and its study as a qualifying and identifying aspect of our environment led to the creation of multiple fields of investigation on historical documentary bases, technical/objective analysis and theoretical / sociological observations. The control of geometries and colors on an urban scale, in particular for the historical one, where the signs left by the past are present and evident, becomes an element where the scientific debate has outlined different approaches and experiments in the design choices. Specifically in Italy, starting from the 70s of the last century, the impetus was given to planning and designing the urban landscape through the birth of the Color Plans. The intent was to enhance and codify, through specific legislation,

the interventions on buildings and on the colors of urban centers as a whole.

The Regions that have adopted laws regarding the specific color theme to date are, in temporal sequence of implementation, the Campania Region L.r. 26/2002³, the Liguria Region L.r. 26/2003⁴ and the Sicily Region that with the bill has prepared the “Plan of the color of urban decoration and landscape for cities, seas and mountains of the regional territory” drawn up in 2003⁵. The list can be integrated by the Piedmont Region which, despite not having a specific law, in 2010 resolved a legislative⁶ address on the subject of “Urban recovery, architectural quality and landscape insertion”, in which Municipalities are suggested to adopt Color Plans, to be drawn up according to the now consolidated methodology of the Color Plan of the Municipality of Turin.

In the absence of specific regional laws, which guide not only the drafting of the project by the designers but also the implementation by the municipal administrators, the plans and color projects are left to the sensitivity of the Municipality itself, unless interventions are carried out punctual on constrained construction in which there is an obligation to follow the provisions on the protection of cultural and environmental assets of Legislative Decree 42/2004.

Within the regional laws, it is unequivocally highlighted how these projects must be received as an implementing regulatory tool with which local administrations integrate and complete the other urban planning tools already in force and as if in contrast the regulations of the Plan prevail of Color.

The regional laws differ in particular on the implementation of the legislation only within a chosen area or which may also include the extension of the built out of scope even if not involved in fact-finding investigations and design choices; and on the flexibility or not of prescriptive use of the technical standards. In some cases, in fact, general rules are dictated which, while orienting the design choices to the recovery of the typological, constructive and chromatic characteristics of the historical building, respect the possible variability of the choices within an abacus provided by the legislation itself.

The most evident consequence of many recoveries is given precisely by this wide decision-making freedom on materials and colors, because it refers to a system of rules and chromatic combinations of the single prospectus not considering the aspects related to the visual perception of the chromatic values of the single building inserted in a context in particular the neighboring one.

Another element that leads to the trivialization and repetition of the chromatic sets of the original image is the use of the color chart, drawn up according to specific direct and indirect surveys on the buildings falling within the scope, even in neighboring areas or in small neighboring construction realities .

In particular, the importance of managing the overall image that is formed by the overlap and co-presence of multiple procedural applications in regulatory matters, is more evident in the smaller urban areas.

³Regional law n. 26 of 18 October 2002: “Rules and incentives for the enhancement of the historical centers of Campania and for the cataloging of environmental quality landscape goods”, amendments to the regional law of 19 February 1996 n. 3

⁴ Regional law n. 26 of 27 October 2003 “Città a Colori”, amendments to regional law 25 of August 5, 1987 “Regional contributions for housing recovery and other planned interventions.

⁵The Regional Landscape Territorial Plan (PTPR), drawn up in 1996 by the Department, is also a useful reference and comparison tool to BB CC.

⁶ The municipality as part of its organizational autonomy, according to the resolution of the Regional Council n.247-45856 on urban recovery, architectural quality and landscape insertion, art.106 can refer to the indications contained in the D.G.R. n.30-13616 of 22 March 2010 art.106 “Tools for the protection and enhancement of the landscape: approval of the guidelines for the landscape quality of the settlements Good practices for building and address planning; Good practices for local planning and art. 109 in reference to a summary definition of the Color Plan.

A case study: the Borgo di Zuccarello

In the specific case of the Zuccarello Color Project⁷, in order to develop a design culture for the management of the existing building heritage in the interventions of ordinary and extraordinary maintenance, restoration and conservative restoration of the walls, the foundations of the reference methodological matrix are laid for a reading and a recovery of the surface treatments of the facades, of the construction techniques, of the materials and for a correct chromatic reading of the building units facing the via Tornatore.

Pursuant to art. 7bis of the L.R. 25/1987 and subsequent mm. and ii., the Color Project will entail effects of integration of the current “Recovery Plan of the Historic Center⁸” and of prevalence over what is in contrast, as regards the scope of application as defined in the planning stage.

During the analysis and design phase, the case study highlighted several orders of problems from which reflections and proposals for possible changes are generated, including in the regulatory framework.

First of all, the inconsistency of management in the control of the transformations implemented with the Recovery Plan of the historic center, in which the fronts and in particular their material and chromatic surface treatment were not protected in their original expressive integrity. There are many cases of fronts treated with painted decorations, re-proposed with different decorations and of a plastic nature. Secondly, the recent recovery of the portico has entailed the plastering not only of the porticoed surface but also of some parts of the elevation, going to cover traces of valuable historical painted decorations still preserved.

In this sense, in order to guarantee the effectiveness and management of the interventions, according to the existing town planning guidelines, the competences that have the task of guaranteeing their compliance with the Project and providing it with a control system should be identified within the administrative structure. display of the project itself more usable and immediate.

The primary objective is therefore to protect the original historical image in its volumetric/constructive design / chromatic characters and identities of the place, including inside the possibility of transformations that take into account the natural evolution of the building, avoiding to fix and freeze the in the current state but assessing the possible guidelines as a starting point for the application by technicians and administrators of the reference legislation.

In this the regional law of Liguria is the one that, with respect to the other Regions mentioned above, has issued more prescriptions and restrictions on the definition of Color Projects, in particular by inserting in the implementation regulation, in a timely manner, all the documents required in the drafting phase, including which the representation of the “spatial relationship between the volumes and the chromatic perception as a whole”.

To date, this type of investigation has resulted specifically in a detailed photographic campaign through approaches to the area, for a visualization of the building as a whole, according to the main route for a visualization of the spatial relationships of the fronts and detail of the single fronts for

⁷ Indicatively, the Plan or Color Project is included within the landscape discipline at a precise level when the Municipal Urban Plan (P.U.C.) is formed, or drawn up within the Recovery Project of the historic center, or constitute the design element of an Urban Planning Implementation Tool, or as an Operational Urban Planning Project (P.U.O.) or drawn up within the Historic Center Recovery Project.

⁸ The Municipality of Zuccarello adopted the Historic Center Recovery Plan in 1985.

punctual visualization; combined with the restitution of the survey of the road scenes, in the current and projected state, through the classic representation of orthogonal axes of the elevations that will be superimposed or mirrored on a reference plan, therefore with a two-dimensional view of the fronts.

The Color Project provides, according to a precise scientific methodological approach, the reading of the elements constituting reality, through the deconstruction of the same from the unitary image, as a fundamental decoding process for a detailed and detailed study of the individual issues. But it is also important for a better understanding and usability by all the actors involved in the process, to restore that image according to a natural and therefore three-dimensional visualization. The idea is to create three-dimensional models of the building in which its current state is represented, the project and the changes that the urban fabric will have over time with the application of the Color Project. Consequently, the current state model must be implementable and modifiable by the municipal administration, which will highlight its transformations, in the immediacy of the practical realization of the single front, in order to explain its renewed image on the model itself.

The complete three-dimensional model of the representation of our entire area, described in all its volumetric/material and drawn/chromatic parts, in the three different versions, appears to be observable as a whole and in the individual details with a rapid change of scale through multiple displays.

This type of reading would not only facilitate the professional in the drafting of the project and the administrative manager in the control of the same in the implementation, but through digital means of communication could allow the involvement of the entire community in all phases of the Color Project. Furthermore, the participation of the community in the implementation process could lead to a renewed sensitivity towards the matter, including its cultural value in maintaining that decorum and cleanliness of public spaces and buildings.

If, on the one hand, the design methodology has consolidated and applied the theories developed in fifty years of scientific research, on the other hand, it would be necessary to rethink at a regulatory level the inclusion of a reading of greater immediacy and understanding of future transformations of the building, in particular as regards a ten-year urban plan.

The three-dimensional application as a reading phase

The representation of the three dimensions is almost as old as its own artistic manifestations, and although it was studied from the classical period to the Renaissance, it was in 1840 when Charles Wheatstone⁹ invented the stereoscope, capable of recreating with apparent simplicity the feeling of depth of pairs of drawings or figures in which slight differences between both would have triggered the feeling of depth if elaborated by our system of perception. Around 1858, years after the invention of the daguerreotype, this photographic process began to present itself as an ideal means of recreating stereoscopic scenes, which would have acquired importance as a tool for the study of different disciplines. In these same years, the German architect Albrecht Meydenbauer¹⁰ began to develop the

⁹During the first half of the nineteenth century the studies of Sir Charles Wheatstone led to the realization of the first stereoscopic experiments. In particular, he understood that the brain processes two two-dimensional images, coming from the eyes and unites them into a single three-dimensional image, allowing us to perceive depth. <http://www.tuttovideo360.it/evoluzione/larrivo-della-fotografia-lo-stereoscopio-porta-panorama-casa/>

¹⁰ In 1858 the architect Albrecht Meydenbauer (1834 - 1921) used some frames to obtain measurements during the survey operations of the cathedral of Wetzlar, in the region of Hesse in Germany, thus creating architectural photogrammetry.

concept and techniques of photogrammetry as a tool for studying the geometric properties of objects and photographic scenes. Meydenbauer's achievements should not remain only in the development of photogrammetry, but we could also consider him one of the pioneers in the graphic documentation of the heritage for its conservation, since among his objectives was the use of photographic images to preserve the geometry of the buildings or monuments and to proceed with their reconstruction in the event of a disaster.

Today the photogrammetry, both of the distant object - such as aerial photogrammetry - and of the near object - oriented to the study of scenes or objects close to the observer - has gone from complex mechanical devices to functional IT tools.

Currently, advances in artificial visualization have brought new 3D modeling proposals to the market, such as structure from motion (SfM)¹¹. In this line, software such as Agisoft's Photoscan or 3DF Zephyr allow to elaborate a three-dimensional model starting from digital photographs or videos. The result of a photogrammetric or SfM process is primarily a discrete point cloud; these discrete, or low-density, clouds are the result of what is known as the Bundler adjustment. This concept is closely related to photogrammetry and allows you to move a series of points in space that coincide between the images and the positions of the cameras that took them with respect to the scene. These points can be established manually, or in the case of SfM they are automatically detected by means of the so-called SIFT¹² process, with which homologous points are detected between pairs of images, which allows us to compare hundreds of images in order to extract common points. Although these scattered clouds may provide geometry information, they are insufficient to evaluate an object or scene in detail, so the final step in these SfM processes is usually a dense point cloud with points that describe the surfaces and geometry of the objects in a way more detailed.

When we talk about clouds of dense points, both obtained with SfM and with photogrammetry, we refer to a set of vertices described in a three-dimensional coordinate system of the XYZ type. Where in addition to spatial information, in the case of SfM and some LIDAR¹³, each vertex or point is accompanied by a colorimetric description in the RGB model. This combination of geometric or spatial information with colorimetric data is particularly useful when it comes to acquiring descriptive information about a work or scene. During the SfM process, this color information is extracted from the image pixels used in the process, so if we have chromatic reliability in these images, they will be transferred to our dense point cloud. This phenomenon transversal to 3D modeling therefore requires particular attention to color management in the images used, in order to guarantee maximum chromatic fidelity.

Once we have obtained our dense cloud of points, we already have a document on which we can make both geometric and colorimetric estimates and where we can also connect our workflow with virtualization tasks for purely informational purposes, where photorealistic textures and synthetic lighting prevail over the loyalty of the models.

Each 3D model can be assigned a scale from a known distance between two points which allows measurements to be made in a particular system of measurement units. But we can also contextualize

¹¹ SfM, based on the phenomenon whereby human or animal vision systems can reconstruct three-dimensional structures starting from 2D images projected on the retina thanks to the movement of these same structures with respect to the observer or of the latter with respect to said structures.

¹² Scale Invariant Feature Transform

¹³ (Light Detection and Ranging) laser-scanning technology that allows you to determine the distance of an object or surface using a laser pulse and then reconstruct the morphology and obtain the shares of the territories flown over.

it in a coordinate system by assigning ground control points (GCP), allowing to elaborate scenarios with different models and to connect them to geographic information systems, to create layer-based models. SfM techniques are proposed as an important heritage documentation tool, not only for their important levels of geometric precision, but also for the accessibility and immediacy of this technique, whose levels of detail are conditioned exclusively by the resolution and the number of images used.

Conclusions

This methodological approach investigates the possible perceptual reading of the volumetric, design and in particular chromatic elements of the building fabric, not only through the two-dimensional representation but also, with the help of photogrammetry and modeling, three-dimensional for a complete definition and connection with all the elements involved.

The simultaneous visualization of the three-dimensional models for an immediate conversation between reality in fact, transformations in continuous updating and final project, would allow to frame the entire scientific and critical process, making explicit the different spatial relationships in a unitary image. The Plans and Color Projects, in fact, are planning tools that allow you to prefigure the future image of a place in a very long period of time, not taking into account what are the transformations and the new design and color perceptions that are coming to create; here this new view would allow, in the case of the Color Plans, in which the modification margin is left in the implementation phase, to be able to highlight inconsistencies in advance. On a regulatory level this could be a methodological implementation of reading that would fill that absence found to date, of a shared awareness of the constructive landscape features in the process of transformation, by the end user by opening to participatory procedure processes in the specific case of restricted areas.

The legislation thus implemented by updating and implementing three-dimensional digital visualization tools would become a form that places a new centrality in the interpretative process of the Plan, laying the foundations for an acceleration momentum of the recovery process which is currently very slow.

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In Sharing the positions expressed in the article, the result of common theoretical approaches and elaborations, the themes: "New representative methodologies in the management of color projects" is attributed to Giulia Pellegrì; "Plans and Projects Colour: Reference standards", "A case study: the Borgo di Zuccarello" and "conclusion" are attributed to Francesca Salvetti; "The three-dimensional application as a reading phase" is attributed to Sara Eliche.



Aerial view of Zuccarello. Digital processing of the images by F. Salvetti, taken from a three-dimensional digital model of Microgeoand Geomax and supplied by Instrumentrix. I.Cappelletti.

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