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*Francesco Salvestrini*

**Between history and archaeology.**

**Research, protection and communication of cultural heritage in a case study of central-northern Italy: the Casentino in Tuscany**



Archaeological reconstruction of the territory of the Signoria dei Guidi in the Solano valley.  
The bridge, the mill and the castle of Sant'Angelo in Cetica

On the occasion of the first Summer School realized within the UNINET project, the team of the University of Florence proposes a methodological reflection about an interesting case study constituted by the Tuscan valley of Casentino. This territory located in the north-eastern part of the region, rich in human settlements, castles, churches and monasteries, where rural communities have always interacted with a mountainous and hilly environment covered with forests, as well as conducive to the forestry and pastoral economy, is an excellent example of historical and archaeological investigation, enhancement, protection and communication of cultural

heritage (Fig.1).

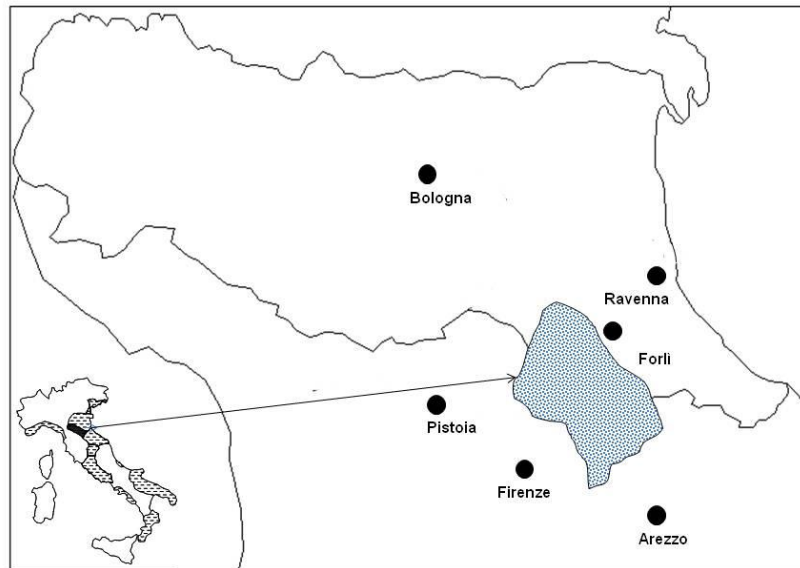


Fig. 1. The Casentino valley, in Tuscany between Florence and Arezzo, between Valdarno, Pratomagno and the Apennine ridge, was the fulcrum of the Guidi family's lordship.

The contributions of Guido Vannini, Chiara Molducci and the writer explore various aspects of this exceptional and exemplary territory of Casentino taking as a point of reference the two main protagonists of local society, who were also the architects of the most significant structures built, namely the 'feudal' lords, with particular reference to the Counts Guidi, and one of the two monastic orders settled in the area (the Benedictine Vallombrosani).

The following texts aim to illustrate in detail the chosen case. However, their main purpose is to show how, through the interaction between historical-documentary research, archaeological analysis of territorial emergencies, interpretative synthesis of the two approaches and communication of the results in order to knowledge, widespread awareness and an aware use of the territories themselves, it is possible to configure a clear example of 'best practice'.

The realities presented or even only briefly mentioned in the texts, whether they consist of fortified noble nuclei, roads and bridges, mills and other productive infrastructures, rural churches in care of souls or some important cloisters of Benedictine monks, are examined here mainly as opportunities for some methodological lessons; method that aims to combine research and conservation, enjoyment of the archaeological good and shared knowledge of it, all in full respect of the integrity of the environment within which the archaeological or architectural site is located, of which it is an integral part and which can only be understood, enhanced and protected to the extent that knowledge, enjoyment and protection

extend to the entire context in which the site was built at the time.

Francesco Salvestrini

***Territory and cultural heritage in a sample area of medieval Italy:  
the Vallombrosan monasticism and the Casentino between the 11th and 13th c.***

The Casentino is a sub-region of central Italy and one of the four main valleys of the province of Arezzo. It is located in north-eastern Tuscany, close to the Apennines, not far from Umbria and Romagna. The territory of which it is composed is largely hilly and mountainous, between about 200 and over 1,600 m. above sea level (Monte Falterona), and is largely covered by forests of beech, chestnut fir and holm oak, which give rise to tree associations in some cases centuries. Part of its surface is now occupied by the National Park of the Casentino Forests, a historical-naturalistic heritage protected by UNESCO (Fig. 2).



Fig. 2. View of the Casentino landscape (Solano Valley)



The area is characterized by a considerable density of human settlements of classical and medieval origin, home to a large number of cultural heritage. These are mainly made up of castles (i.e. fortified settlements), rural communities, parish churches (churches in care of souls), chapels and monasteries, all placed in a social and cultural context characterized by deep and dating interaction between nuclei of anthropization and the natural environment.

The levels of population of the territory in the late antique and medieval ages were deeply influenced, as far as the structure of the primary sector, the other productive activities, the road network, the cultural connotations and the religious orientations were concerned, by the presence of some monasteries of the Benedictine tradition. Particularly important on these lands was the spread, from the first century XI, of two religious Orders reformed intended to mark the regular life of the entire Italian peninsula, namely the Benedictine congregation Camaldolese and Vallombrosana. Of these monastic families, widely distributed in various regions of central and Po Valley Italy, in Rome and Sardinia, the two mother houses, ie the centers of irradiation (Camaldoli and Vallombrosa) arose, in fact, on the western and northern reliefs of Casentino and Pratomagno contermina (Fig. 3).

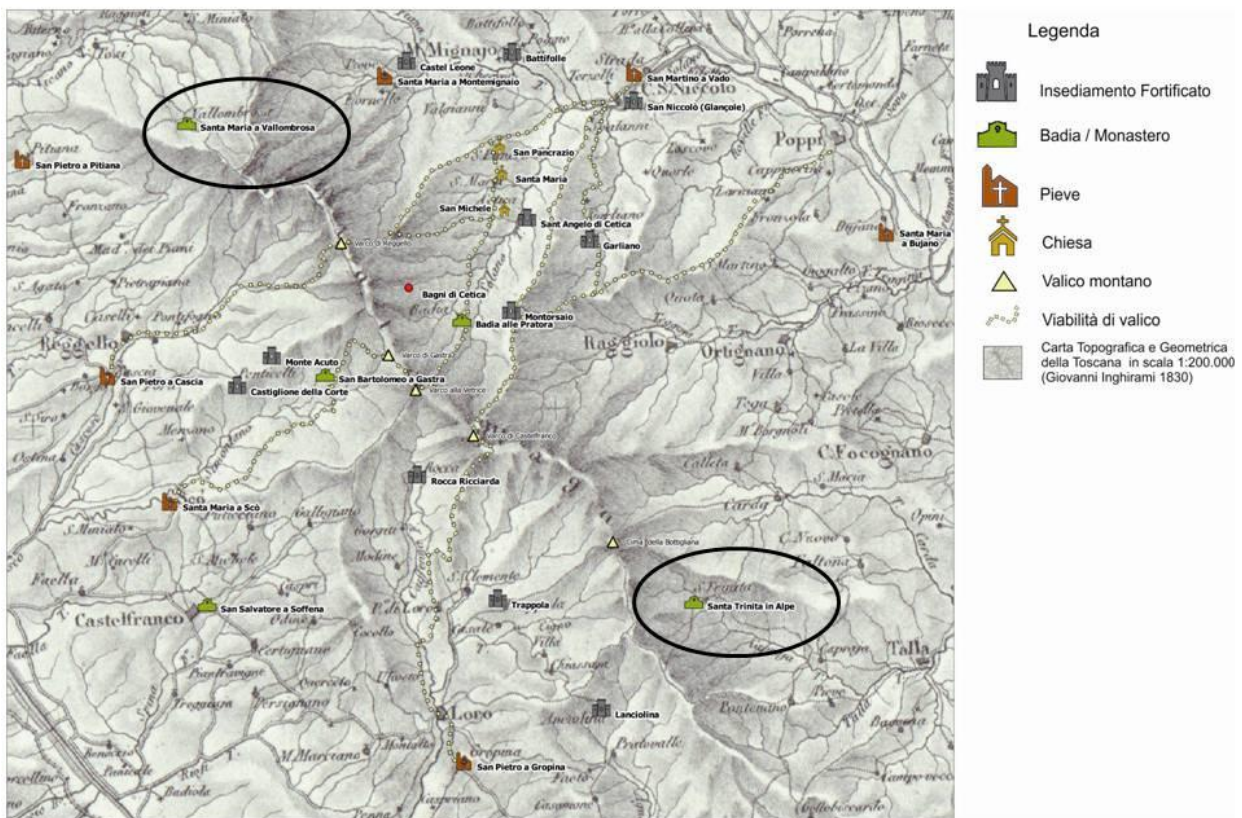


Fig. 3. Medieval settlement structure, between Casentino-Pratomagno.

Location of the Monastery of Santa Maria a Vallombrosa and Santa Trinita in Alpe (elab. Annica Sahalin).

In the heart of the Casentino area, along the first large bend formed by the course of the river Arno, the settlements of the monks-heremites of Camaldoli were more widespread. However, if we consider the territory under examination in a broader sense, that is, including also the Pratomagno and the upper Valdarno upstream of Florence, and therefore the second bend of the largest Tuscan river, we can see how it is especially incisive the penetration of the cloisters affiliated to the obedience of Vallombrosa, on which in this place we will entertain more widely.

The reformed Benedictine order of Vallombrosa was originated by the monk Giovanni Gualberto (end of the X-1073 century). This character, perhaps coming from the small feudality of another Tuscan sub-region, that of Chianti, according to the hagiographic tradition took his vows at a young age against the will of his father, entering as professed in the prestigious bishop's monastery of San Miniato al Monte near Florence. Very soon he became the main point of reference for the monastic and ecclesiastical reform and the fight against the corruption of the clergy (represented above all by simony and nicolaism), and placed himself at the head of a small group of religious more faithful to him, he abandoned the cloister of his profession and gave birth to a new monastery called Vallis Ymbrosa (Rainy Valley) on the western edge of the Casentino territory (Fig. 4), animating a regular community that became an example and then institutional guide for dozens of other monastic foundations linked to it with the approval of the Apostolic See (Salvestrini 2008, pp. 9-11).





Fig. 4. Monastery of Vallombrosa (Municipality of Reggello-Florence). Overview of its architectural structure

In this communication we will examine the two main Vallombrosan foundations that insisted on the central area of Casentino and on the reliefs of Pratomagno, namely the Order's mother house (Vallombrosa, in fact) and the monastery of Santa Trinita in Alpe, presenting some characteristics to highlight their nature as historical-territorial goods, one of which still exists and in full operation (Vallombrosa), the other now reduced to a state of ruin, but subject to renewed archaeological, historical and tourist attention (Santa Trinita) (Fig. 5).



Fig. 5. Archaeological remains of the abbey of Santa Trinita in Alpe

As far as the monastery of Vallombrosa is concerned, we know that around 1037 its founder, fleeing from the monastery of San Miniato where a simonian abbot had been elected, arrived, together with a handful of followers and after a long peregrination, to the aforementioned Vallis Ymbrosa, a wooded and humid place at almost a thousand meters above sea level, where he found two hermits from the monastery of Settimo not far from Firenze. Here the young religious committed himself to the organization of a community governed by the principles of the Rule of St Benedict and with a strong emphasis on the choice of poverty (Salvestrini 1998, pp. 1-10).

As for the evolution of the abbey building, dedicated to the Virgin Mary, the hagiographic sources and the sporadic documentary evidence relating to the eleventh century speak of an original community of huts built on the land then granted to the monks by Itta (1039), abbess of the nearby monastery of St. Hilary in Alfiano, a cloister located on the right bank of the Arno linked to the stately consortium of the Counts Guidi. The original oratory officiated by the religious was a modest wooden building; and the bishop of Paderborn, legate of the emperor Corrado II (ca. 990-1039), who came to visit the community, could consecrate only the stone altar (Andreae Strumensis, p. 1086). There is sure news about the presence of some masonry buildings only from 1058, when the first hagiographer of Giovanni Gualberto, Andrea di Strumi, remembers as Umberto di Silva Candida, cardinal reformer close to the positions of these protesting monks, "totum oratorium cum duobus altaribus consecravit".

The old canteen had not been demolished. Around it, however, had grown a larger hall, probably divided by a partition that separated the presbytery from the section reserved for the faithful (Vasaturo 1994, pp. 199-200). For this period we have only indirect evidence of the monastic complex. The fact that the customs of the Order, codified in the first century XII, contain in reference to the monks expressions such as: "ad sua vadant cubilia, in claustra revertentes, de calefactione, sonante horologi signum", suggests that these structures (cloister and dormitory, room for heating or calefactorium, clock with ringer) were already present in Vallombrosa. However, it should be noted that these texts referred to all the monasteries of the Vallombrosa family. Some indications could, therefore, have been taken from the endowments of the oldest and largest abbeys, such as San Michele Arcangelo in Passignano in Chianti, which entered into Vallombrosa obedience about one hundred and fifty years after its foundation, and it is not certain that all this also existed in the environments of Vallombrosa (Pirillo 2009).

During the thirteenth century, the usual practice of convening the general chapters of the Order at the parent company imposed to expand and make more appropriate the complex of its built spaces. It was Cardinal Ugolino d'Ostia, later elected pope with the name of Gregory IX, who in 1223 advised Abbot Benigno to build a larger church. Work began the following year and continued until 1230.

Epigraphic and documentary testimonies speak of the presence of a magister Petrus lombardus, superintendent of the building site. This confirms the use of qualified workers from northern Italy (Vasaturo 1994, p. 203). The Romanesque church then elevated was characterized by a Latin cross plan with a single nave, a protruding transept and semicircular apse, a conformation similar to that of other churches Vallombrosan (Moretti 1995). At the intersection of the nave with the transepts, a dome was set up, wrapped outside by an octagonal tiburium. The final structure of the bell tower had to be dated back to these years. The set of buildings, which had now as-

sumed the appearance of a large monastery equipped with all the most typical spaces necessary for the life of a regular community, did not have to undergo major changes until the second half of the fifteenth century (Salvestrini 2011).

The landed patrimony of Vallombrosa only marginally affected the area of Casentino, since the religious preferred to extend their possessions towards the Valdarno and in the direction of Florence. However, the entire summit area of Pratomagno was affected by the presence of land linked to the great abbey, with particular reference to the mountain community of Montemignaio (Salvestrini 1998, pp. 53, 62, 112, 193, 241). It was precisely on these high ground areas that the monks concentrated a large part of their woodland area, which reached such an extension that it was not easily controllable for them to re-survey. We find, in fact, that at the end of the fifteenth century - as reported in the Memorial of the Abbot General Biagio Milanese (such from 1480 to 1514; Salvestrini 2017) - he had committed himself to recovering many lands of the past belonging to the farm of Caliperti (Montemignaio). The plots had been usurped by the settlers of the area, favored by the uncertainty of the borders and the fact that the monaci did not know the exact extent of their own estates.

The areas, mostly occupied by pastures and woodlands, were never significantly tilled. The monks preferred to keep the wood, mostly coppice governed, until it became one of the most important reserves of timber for construction both for the city of Florence, and - in modern times - for the construction of the port and shipyards of Livorno on the Tyrrhenian Sea (Salvestrini 2008, pp. 65-80, 129-148).

The second important abbey in the valley between Casentino and Pratomagno was Santa Trinita in Alpe a Fonte Benedetta (now in the municipality of Talla), a monastery dating back to the Ottonian era (10th century, Fatucchi 1997-98; Fatucchi 2011). The Romanesque church, as it still appears today, consists of a single hall, with a transept covered by a barrel vault and a large semicircular apse opened by a mullioned window. Of particular interest is the sandstone barrier that divided the church in the middle of the length of the nave. Under the presbytery is still visible a small room with two columns that is part of a crypt (Fig. 6).

The entrance of this cloister into the Vallombrosan Order was late and took place in a period - the first thirty years of the 15th century - particularly significant for the ancient Benedictine reform. In fact, during the period between the end of the Western Schism (election of Pope Martin V to the papal throne, dissolution of the Council of Constance, 1417-18) and the beginning of the long stay in Florence of Pope Eugene IV (approx. 1434-43), the monastic family headed by Vallombrosa, which had fallen considerably in terms of the number of religious and the number of houses that recognized themselves as congregated, experienced a fifteen-year period of relative pacification, as well as renewed internal cohesion, which we can see in some way symbolized by the new draft of the Life of the founder Giovanni Gualberto



composed by Andrea da Genova in 1419 (Angelini 2011).



Fig. 6. View of the 16th century Vallombrosa Monastery

The Romanesque church, as it still appears today, consists of a single room, with a transept covered by a barrel vault and a large semicircular apse opened by a mullioned window. Of particular interest is the sandstone barrier that divided the church at the center of the nave. Under the presbytery is still visible a small room with two columns that was part of a crypt.

The passage of the ancient Casentino cenoby to Vallombrosan obedience was sanctioned by Pope Martin V. The latter with a bull dated 31 January 1426 (common style) joined this foundation to Vallombrosa along with its "limbs", ie the annexed churches and other dependencies. The act underlined, in a fairly stereotyped form, the decline of all these structures (*erant collapsa multipliciter et ad infimum statum deducta*), and enumerated, in particular, the dependent priories of San Donato in Alpe (San Donato Aretino), San Giorgio di Ganghereto, Sant'Andrea a Loro, San Donato in Vinca and a monastery of nuns in Terranova (Terranuova Bracciolini); without neglecting the *hospitalia, ecclesias, cappellas, oratoria, loca et membra suo ac omnia et singula bona mobilia et immobilia, iura et actiones*; not failing to specify the

relative incomes, which amounted to a total of 1000 ducats of gold.

The pope declared that he had made this concession so that the monastery would be reformed and because in all the churches linked to it *divinus cultus ac regularis observantia feliciter vigerent*. According to the document, the acquisition of the Holy Trinity was favoured by various circumstances. The cloister of Valle Benedetta was, in fact, linked to the Vallombrosan abbey of San Salvatore a Soffena, in Valdarno, whose community had perhaps been a tributary of that of the ancient Casentino monastery (Gaborit 1965, p. 183; Pincelli 2000, p. 80). In 1425 Pope Martin had given Santa Trinita to the prior of Soffena (Scarini 1985, p. 57). Perhaps it was he himself who pleaded for the cause of the annexation to the Vallombrosian Order of a house - precisely the Holy Trinity - which in some way he considered already a sister of his own. In any case, with the acquisition of a new monastery in the diocese of Arezzo, the Vallombrosani came into possession of an ancient seat and a considerable network of dependencies that led them to act on both sides of the chain of Pratomagno (then more directly on the heart of Casentino) and to consolidate an already very strong influence on the religious life of local populations.

The monastery remained tied to Vallombrosian obedience until the nineteenth century, extending its landed heritage on the nearby hills of Monteacuto and Pontenano, as well as in the direction of the mountains of Loro and Mount Secchieta.

Between the 14th and 15th centuries, despite the demographic crisis and the transformation of the rural areas of Casentino, the ancient cloister still had a sufficient number of brethren, a patrimonial structure that was not completely compromised and the management of at least two welfare structures, among which was the Ponte di Arezzo hospital (Vasaturo 1994, p. 146). Still during the thirties of the seventeenth century, the time of the superior don Silvano di Giovanni Geri da Poppi, the rents appeared not to be negligible. In fact, in 1638 the institute housed almost 280 stiaias of wheat and other cereals and 18 stiaias of chestnuts, one of the most widespread products in the area.

Both Vallombrosa and Santa Trinita in Alpe (before and after its entry into the Vallombrosa family) acted as catalysts for economic activities and religious framework for a vast area around the course of the Arno. Not having to cope with a massive penetration of the mendicant Orders (especially the Friars Minor and Augustinian) into these sparsely populated lands far from the main cities, the two foundations remained among the most important points of reference for the devotion and social life of the local populations.

The great monastery of Vallombrosa has known a centuries-old settlement continuity, characterized by the presence of religious until the nineteenth century and its use as the seat of the Royal Institute of Forestry and Arboretums experimental

Vallombrosa from 1869 to 1914 (Fig. 7).



Fig. 7. View of the Vallombrosa Monastery in the 18th century

During the seventies of the twentieth century and then on the occasion of the Jubilee of 2000, a comprehensive work of architectural restoration and decorative apparatus edited by the Superintendence of Environmental and Architectural Heritage of Florence has affected the entire abbey complex, which has been equipped with accommodation facilities to accommodate both the religious community (returned in possession of the structure, which however remained the property of the Italian state), and visitors, pilgrims and students of forestry sciences. The preservation of the building structures went hand in hand with the new use of the monumental environments, making the monastery an interesting case of interaction between the housing and liturgical functions of the monastic community and the use of some spaces for the stay and study of young people enrolled in the Department of Forestry Sciences of the University of Florence. In the sign of continuity between the religious community and the scientific community, therefore, the close relationship between man and the environment has always remained active, a relationship that has characterized the abbey throughout its long history.

Different but no less interesting was the story of the Abbey of Santa Trinita in



Alpe, which, following some substantial changes in the local road layout during the modern age, was gradually abandoned during the seventeenth century and permanently at the beginning of the eighteenth. As a result of this choice made by the religious the building fell into neglect and was finally sold to private after the French suppression at the beginning of the nineteenth century. Today there are still some ruins that have deteriorated dramatically until 1969, when the Superintendence for Environmental and Architectural Heritage of Arezzo has provided for a first restoration and consolidation of the surviving structures.

After a conference held in 2008 (The Abbey of Santa Trinita 2009) the site has aroused new interest and the remains of the walls have been included in some hiking trails that today are part of the activities of the Ecomuseo del Casentino. The growing attention of archaeologists and historians and local cultural institutions, who are also active in promoting a conscious tourism in the area, has fostered the preservation of the monument and the knowledge of it.

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*Guido Vannini, Chiara Molducci*

**From Light Archaeology to Public Archaeology.  
Between research, scientific communication and social sharing,  
in the Casentino dei Conti Guidi**

**I. A methodological framework between territorial archaeology and civil sharing**

1. *Archaeology, Research, Society*. The theme is to propose operationally, through one of the few experiences that have been placed on a methodological-experimental level in these terms, an organically integrated path between archaeological research conducted on a historical and territorial basis - that is, interested in deductively investigating historical phenomena, through the relative material traces found in the environment, rather than starting inductively from the analysis of specific episodes (eg, also excavations) - and a wide sharing of the results of the research with the communities of reference: precisely from a 'light' practice of archaeology conducted on a territorial basis to its 'public' use (Fig. 8).

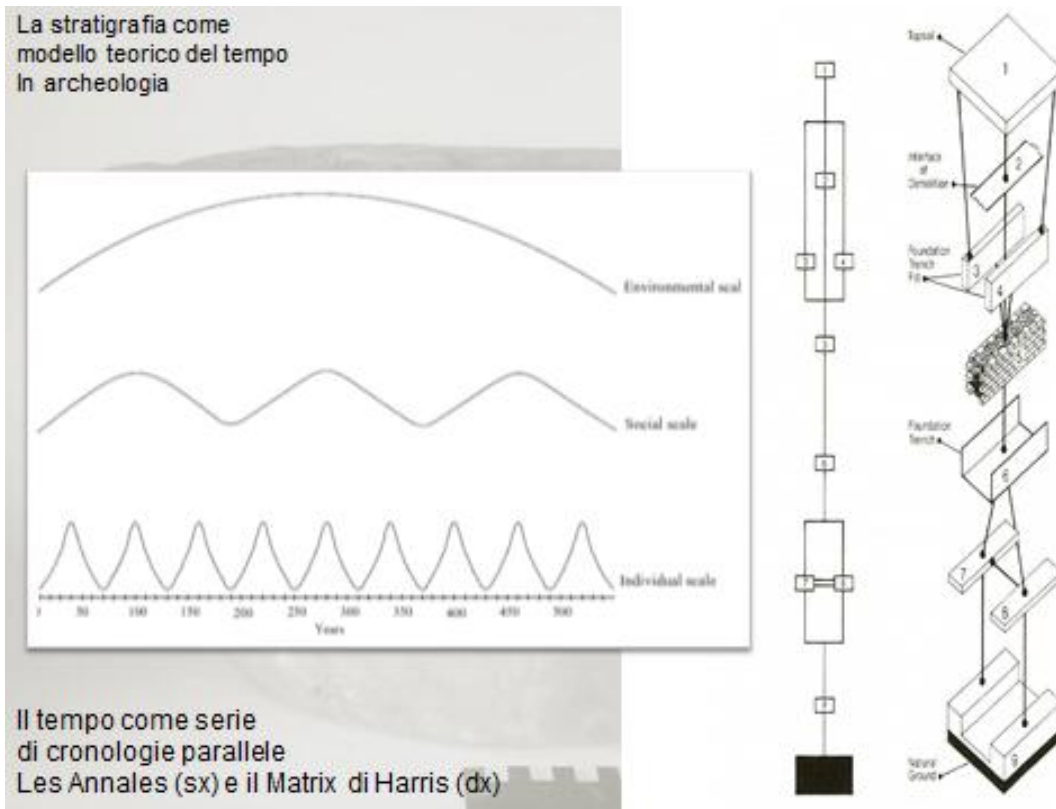


Fig. 8. Harris' Matrix and "Les Annales" temporal model scheme, theoretical modeling of the relationship between space and time in archaeology (time as a parallel series of timelines) (elaborated by Elisa Pruno).

The case presented here refers to a project ("*Il ponte del tempo. Paesaggi culturali medievali*")<sup>1</sup> which - as part of a programme aimed at documenting, by comparative areas, the formation, structure and forms of territorial organization of the great Tuscan Lordships of feudal matrix, from the political dimension to the economic one, to the settlement to the cultural one (Fig. 9) - has chosen as a sample area to document, in this sense, the story of the Guidi family (one of the largest in Europe in the central centuries of the Middle Ages), a 'culturally homogeneous' part, between the XI-XIV centuries, of the Casentino valley.

<sup>1</sup> The research programme, which is part of the strategic project of the University of Florence for Medieval Archaeology, is conducted in collaboration between the Chair of Medieval Archaeology of the University of Florence and the Ecomuseo del Casentino (Union of Municipalities).



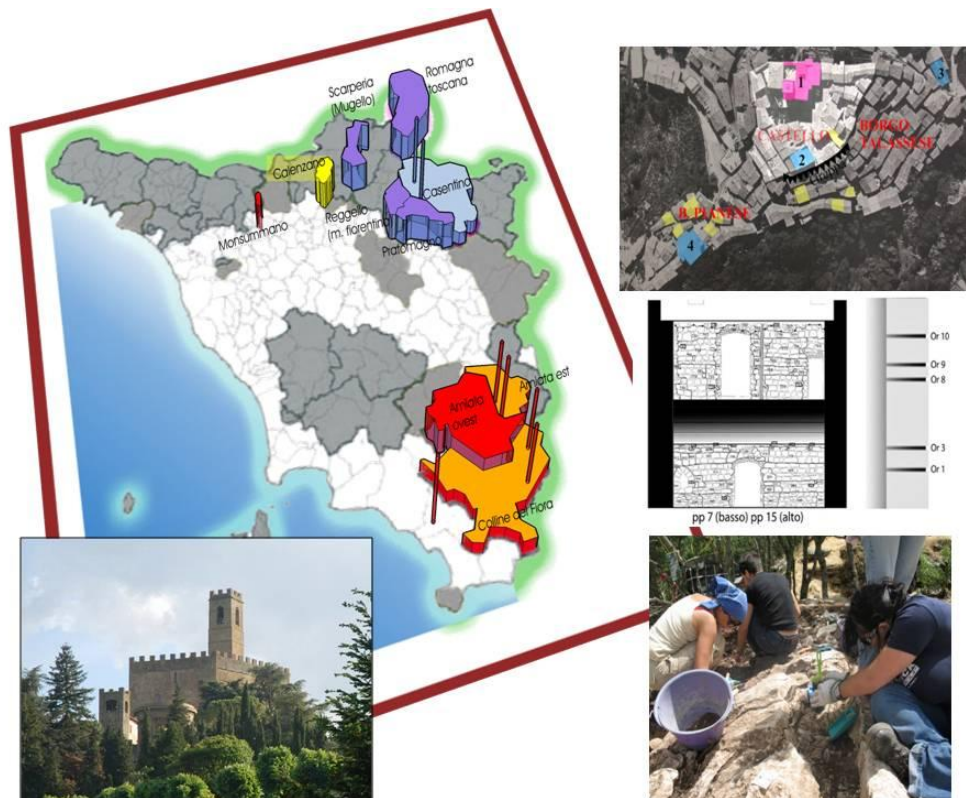


Fig. 9. Settlement structure of the great Tuscan feudal Lordships (Counts Guidi and Aldobrandeschi) investigated with the methods of Light Archaeology.

A characteristic methodological element is the setting up of the research according to the practices of 'light archaeology', which integrates the archaeology system of architecture and landscape archaeology on a specific archaeomatics basis (Fig. 10); a sustainable approach that does not necessarily exclude excavation, but that reserves for this a peculiar function of 'stratigraphic observatory' in an area chosen on the basis of the results in progress of territorial research, on the basis of precise historical-archaeological questions; for example, that it can give information not only on what 'happened' in the few square meters of the essay (however large it may be, always a 'small' sample with respect to the 'universe' to which it refers) but above all on the category(s) to which it belongs ('not a castle', but the fortification', for example, will be the real objective of the investigations).

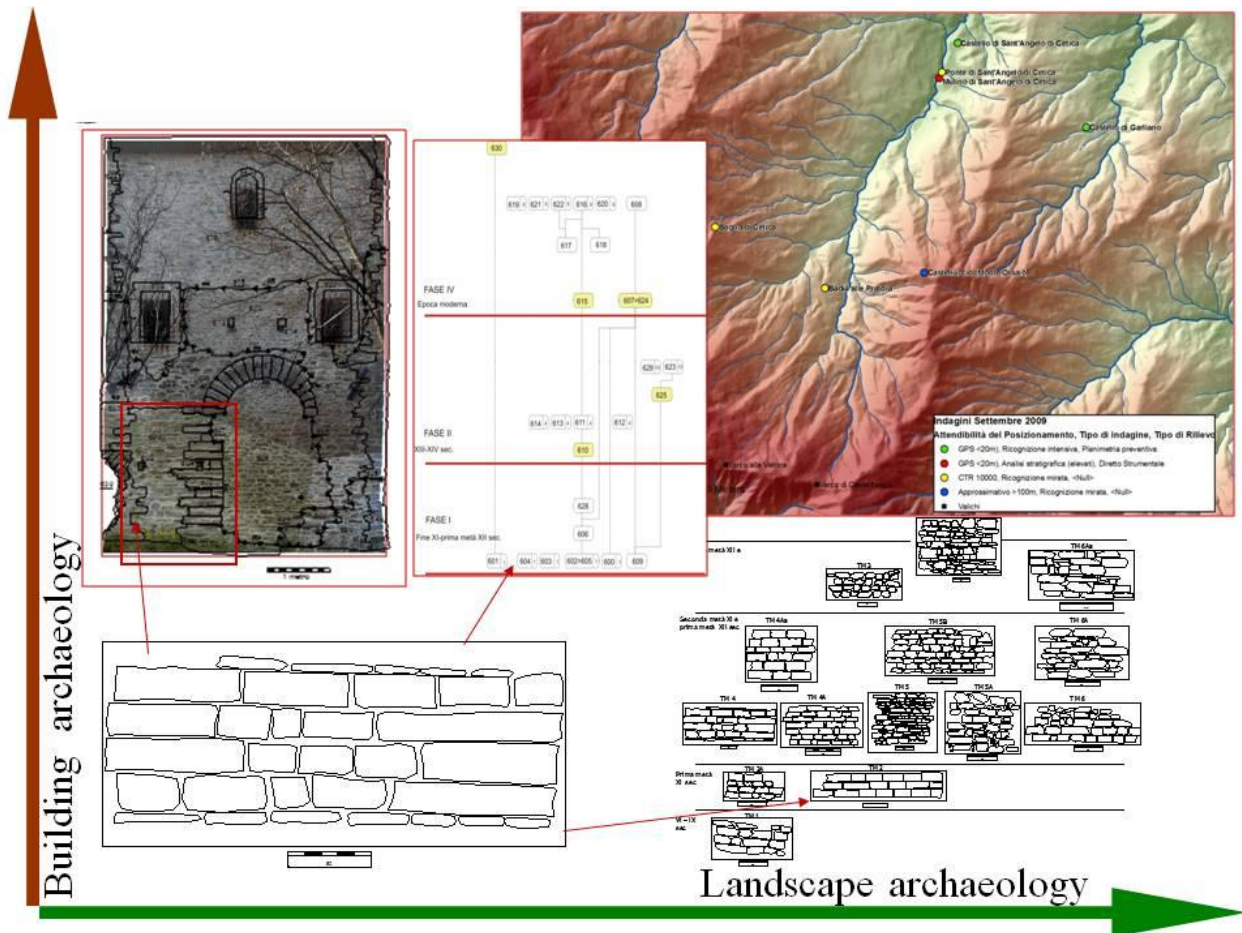


Fig. 10. Territorial structure of the 'light' approach to archaeology

Thus, the option of stratigraphic excavation, by far the most demanding operation, even economically, and that in perspective can trigger complex problems of conservation, maintenance and management of the archaeological area under investigation, however small, is preceded and accompanied by the integrated application to system of geophysical and non-destructive archaeological analysis both horizontally (landscape archaeology) and vertically (archaeology of the high) and then postponed and especially aimed at developing methods of investigation or the solution of specific issues raised by the documentation collected (Fig. 11).





Fig. 11. Global Archaeology in Zignago (Liguria, 1977). Archaeological illustration showing a reconstruction of the medieval settlement. The emphasis on construction technologies, imprinted by Tiziano Mannoni, is also evident in the modern tourist signs placed on the site.

In this sense, light archaeology is the key element for the development of an ethical dimension, almost ecological and archaeological, which is expressed in respect and protection of sites and landscape (this is a relapse of the excavation that archaeologists often do not consider at all), in the replicability of the analyses (from this point of view it is much closer to the scientific method than the excavation, especially if total), it is not destabilizing and generally does not cause the need for restoration - and, in this case, it is a valuable guide through the stratigraphic apparatus that is able to produce quickly - and therefore commitments for the communities of reference. Ultimately, a ductile archaeological method, highly productive and at the same time sustainable (suitable for periods of resource crisis, one might even say...).

On another level, it is a question of giving IT procedures a strategic and innovative role in supporting the various aspects and phases of research; a true computerised 'architecture' of the project system, capable of acting effectively on several fronts: from the integration and progressive automation of the complex of surveys in the field, to the establishment of an interactive database of the documentary base understood and organized as a single complex, to the management of this both in the direction of its increase (open structure), both in that of its scientific use (interpretation of data), both in that of dissemination at several levels



('public archaeology'), but also for an update of the documentation of the research in real time and to contribute to specific aspects such as those of the restoration or exploitation of the results - also concretely material: artifacts, structures, topographical arrangements (Fig. 12) - of the research itself (for example, with solutions for a virtual side, for another hypertext side).

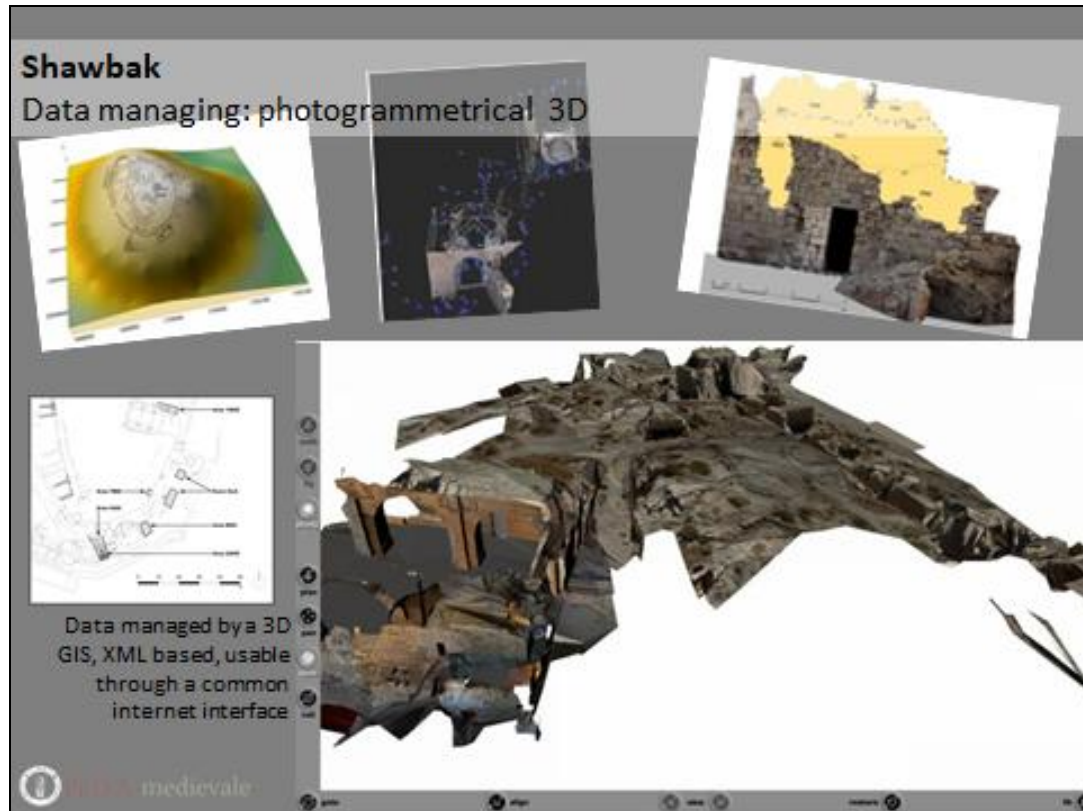


Fig. 12. Archaeological elaborations in Shawbak (Jordan)

But it will be precisely the territorial approach that will lay the foundations for an integration between such a scientific path and procedures, simultaneously programmed, of 'public archaeology'<sup>2</sup>. In particular, this type of approach is able to produce sufficiently 'extensive' documentary results - both materially (the knowledge

<sup>2</sup> "A crucial point for the viability of such projects was the actual engagement of non academic potential beneficiaries into a joint cooperation with University of Florence on an equal basis. Community activation, based on the methodology of EU Leader Plus programme for rural development (then embedded within Public Archaeology), helped bridging the obstacles of potential distrust between academic and non academic actors through the development of a common language and through clearly defined roles within project consortia. The aim of maximizing benefits for all partners was interpreted in the sense that projects should respond to clearly identified needs of each partner/stakeholder, that has to actively take part to project planning and activities, thus helping an actual engagement of all project actors. All activities are subject to monitoring and impact evaluation. Projects developed by the Chair of Medieval Archaeology within this frame provided additional funding for base research (also in the form of research grants); sustained and implemented a scientific network of international public research institutions and their activities (including joint scientific missions and publications); created territorial, national and international networks of academic and non-academic actors able to join forces in project consortia and, recently, developed spin-off actions in the field of heritage services/enterprises." (VANNINI-NUCCIOTTI, 2011).

of a culturally homogeneous territorial context) and conceptually (the analysis of a historical phenomenon, beyond the episodic limits of the classical archaeological instrument) - able to be spent not only for directly historical and scientific purposes, but also to raise awareness of the protection and consciously suggest new forms of management and enhancement of the historical, cultural and territorial heritage (Figs. 13-14).

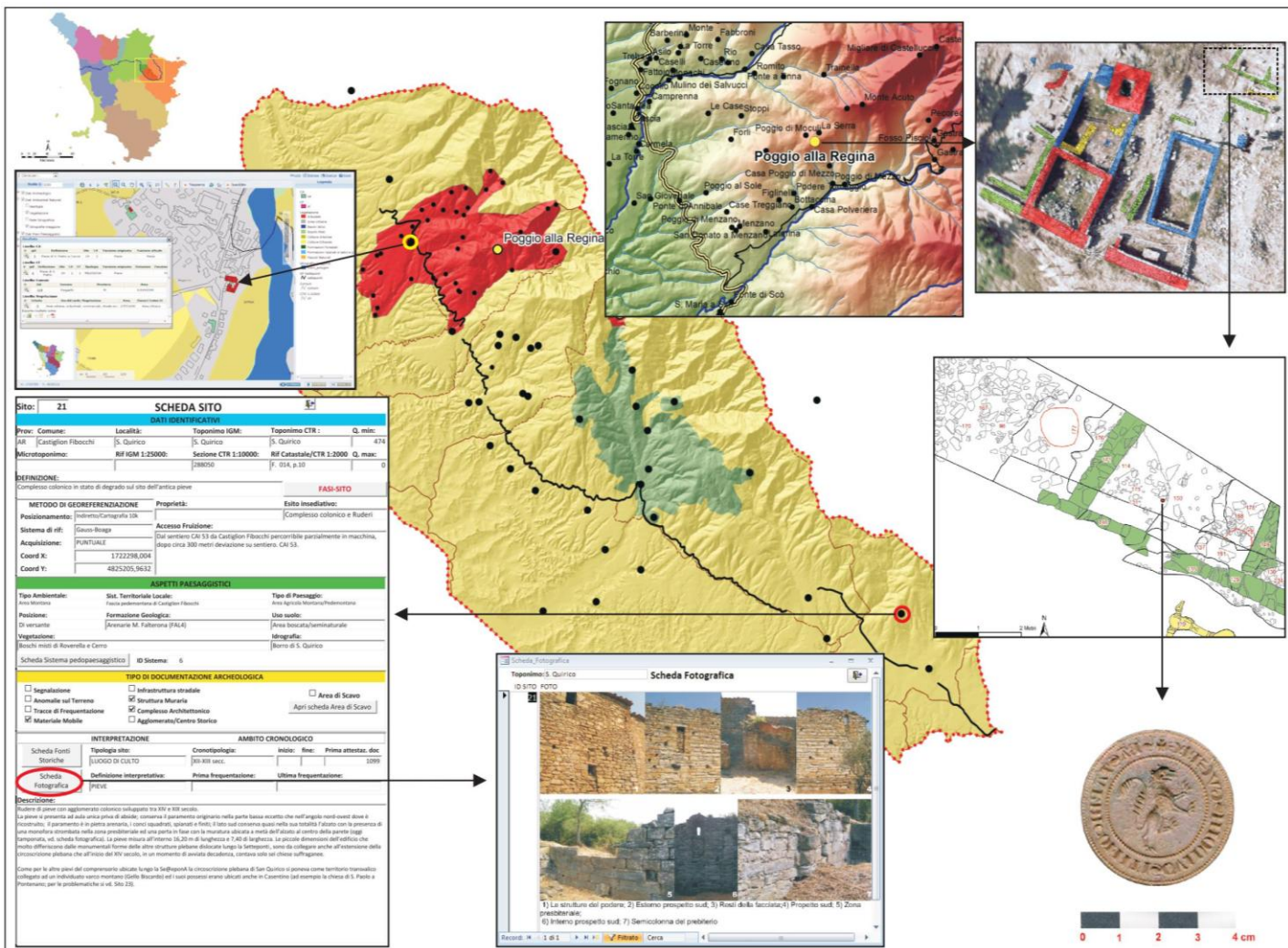


Fig. 13. Archaeological reading of a territory. The Pratomagno Project: historical landscapes and 'archaeological observatories' (elab. Annica Sahalin)



Fig. 14. Archaeological reading of Pratomagno: the evaluation of the archaeological resource (elab. Annica Sahalin)

Public Archaeology, in fact, can be, in extreme synthesis, presented as the interdisciplinary scientific field that studies and promotes a strategic relationship between research and an articulated spectrum of public and private subjects of civil society and can be considered as a redefinition and recentralization of an area of interaction between 'pure' and applied archaeological research in some key areas: communication, economics and management, politics, identity. In other words, the objective is to combine research with its applications designed to contribute to the achievement of shared objectives of socio-cultural and also economic importance and, in collaboration with the relevant institutions (both central and local), to the enhancement of archaeological BB CCs in favour of resident communities and territorial productive sectors (Fig. 15).



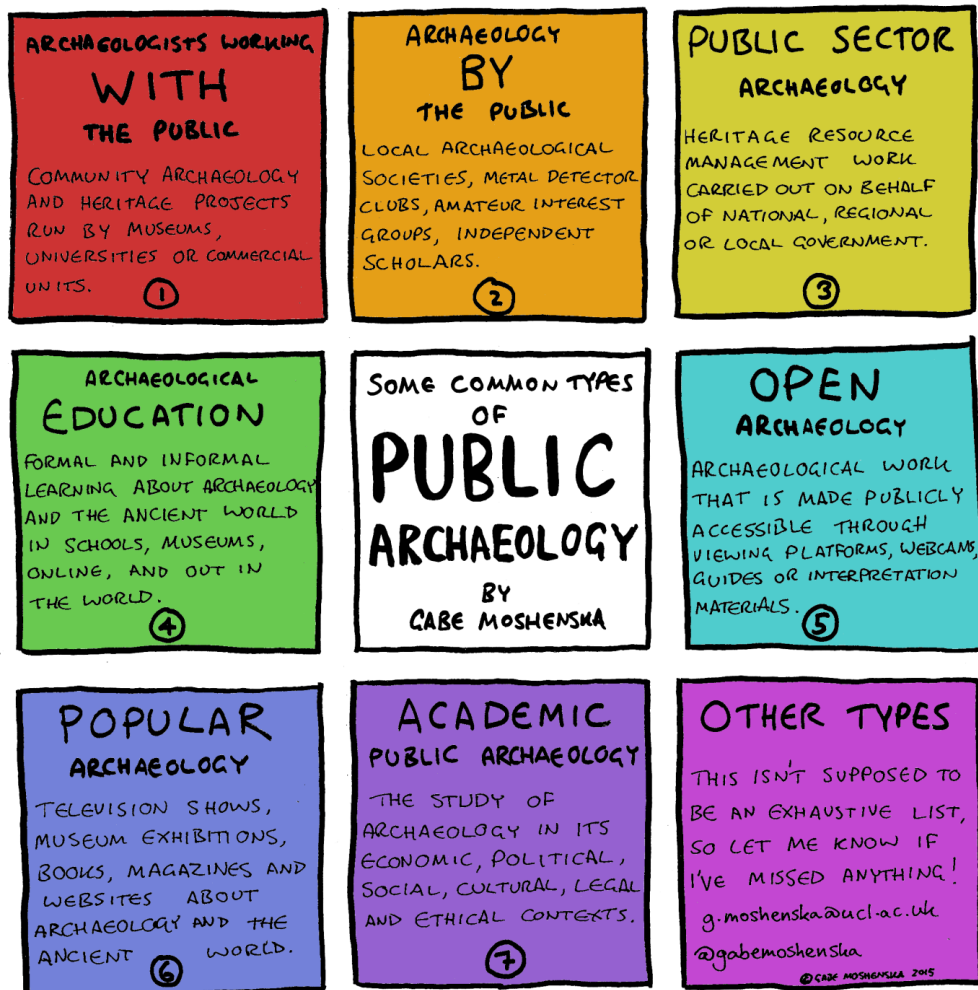


Fig. 15. Gabriel Moshenska, 2017, Key Concepts in Public Archaeology

Public archaeology, in fact, as an actualisation of the original vocation of the Discipline to spend in its own time and as a national interpretation of recent experiences among Anglo-Saxons, between economy, governance, communication, identity of the Cultural Heritage and archaeological social communities. Applications of archaeological research as a sharing of 'sustainable' projects with different actors, public and private, of civil society and as a support to pure research. Public archaeology as a contribution to the repositioning of academic research in this sector in today's society in crisis and to the formulation of proposals to overcome it with a view to recomposing all scientific knowledge.

In other words, archaeology becomes 'public' when, from a scientific point of view, the problem of the 'public of archaeology' arises.

**2. Archaeology, History, Environment.** In this project - which we will take here as an example of an itinerary that has crossed the entire route just outlined (from 'light archaeology to public archaeology') - the field investigation has taken its cue from the reading of the historical landscape of the Solano valley; a territory that, in its development, has been strongly characterized by the close relationship between people, environment and exploitation of natural resources over time, interwoven with the memory and recovery of the memory of the material and immaterial references of the current inhabitants of the territory and their direct involvement in the planned activities.

The intent, therefore, is to understand the mechanisms of transformation of the territorial structures in the chosen historical time "capturing the interaction between the different levels in succession and combining the horizontal sections with the vertical ones, the synchrony with the diachrony, the event with the duration" (Potter 1985). The aim is to obtain archaeological and material documentation that is as extensive as possible on the territory (with surface surveys) but intensive on a series of selected archaeological sites and areas (with analysis of specific building structures and with the stratigraphic excavation of the castle), achieving a high degree of reliability, in a relatively short time and in conditions of marked economy.

As often happens, in this case, the restoration and safety of the ancient bridge of Cetica (Castel San Niccolò, Arezzo)<sup>3</sup>, a particularly dear artifact to the community, seriously compromised and at risk of collapse, it was an opportunity to develop an integrated research and development programme, centred on the 'territorial system' represented by the bridge, the mill and the Castle of Sant'Angelo, significant from the point of view of medieval historical investigation, as it preserves the archaeological evidence relating to important historiographical themes, such as the relationship between the owners of the castles, the Guidi, the historical road network and between these and the productive structures of the territory (Figs. 16-17)<sup>4</sup>. The recovery of the

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<sup>3</sup> The first attestation of Cetica dates back to 1002 when Ottone III confirmed its ownership, perhaps of Marquis origin, in the Badia Fiorentina. Its mention among the properties of the Guidi, however, dates back to 1029, the year in which Count Guido II donated the tenth of the curtis of Cetica to the church of his monastery of San Fedele in Strumi. The power of the Guidi and at the same time of the Badia Fiorentina over Cetica is attested until 1066 (Rauty 2003, pp. 89-91). Between the end of the 11th and the beginning of the 12th century, a period in which the Guidi extended and consolidated their power between Tuscany and Romagna, Cetica came under the effective control of the accounts, as was subsequently confirmed by the diploma of Federico Barbarossa in 1164 (Rauty 2003, pp. 298-301) and, in 1290, it was among the centres destroyed on the road to Florence by the Florentine army returning from an expedition against Arezzo following the Battle of Campaldino. The area remained within the scope of the guide until 1349 when the population rose up against Count Galeotto Novello and became part of the Podesteria della Montagna Fiorentina (Bargiacchi 2009, p. 229).

<sup>4</sup> An authentic microcosm with the paradigmatic value of a large number of feudal structures similar to those of the

historical spaces has taken place through the study of the territorial structures and of the artifacts of daily use recognized as 'significant' by the community. The peculiarity of the project was therefore the way in which the forms of feudal settlement were studied in a concrete territorial case, the historical story of the Guidi's Lordship and its settlement and fortification dynamics in Casentino - through intensive surveys on the site of the castle of Sant'Angelo (followed by a 'targeted' excavation campaign) and archaeological analyses of the structures of the bridge and the mill - with the value of a case-study representative of widespread realities, combined with a dimension also cultivated in experimental forms of models between communication and indications of governance of research results (Molducci et al. 2015; Vannini 2011; Vannini et al. 2014; Volpe 2016; Manacorda 2017; Nucciotti 2009, Molducci 2019)<sup>5</sup>.

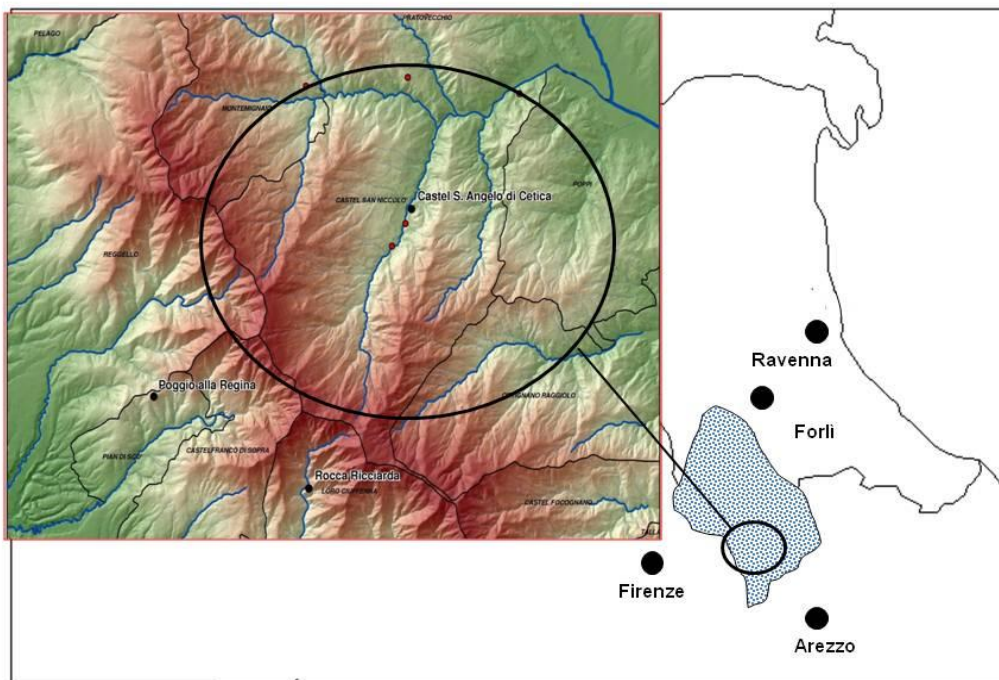


Fig. 16. The Solano Valley area

mountains for the central centuries of a 'long' Middle Ages: a true Braudelian 'structure'.

<sup>5</sup> The project foresees, therefore, the reading of these phenomena through the archaeological analysis of the settlement methods adopted by the Guidi counts to contribute to the reconstruction of their castle structure in the Apennine area, recognizing some of the operational lines adopted by the Guidi in the material construction of their lordship and of which it represents a precise peculiarity: the feudal society understood in the classical sense proposed by Marc Bloch, approached to the other, of 'feudalism', which refers instead to the political-institutional dimension and the rural world, the countryside, in its dialectic with the emerging central powers, the new political realities (the merchant cities, elsewhere the national monarchies) that are affirmed in the late Middle Ages with increasing intrusion, as structural elements of origin of modern Europe (Vannini, Molducci 2009).





Fig. 17. The 'microcontext' of the Bridge, Mill, Road and Castle of Sant'Angelo in Cetica

The strong interest of the Guidi for the area of Cetica had some reasons. First of all, the central position of the centre within the committee was particularly strategic, going from Tuscany to Romagna, near the watershed between Pratomagno and Casentino, where the main roads connecting many of the most important properties of the Counts ran. Moreover, the proximity of the Solano river, a tributary of the Arno, had encouraged the establishment, in Cetica, of an important productive nucleus of mills and ironworks, of which water was the driving force. The area was further strategic as the center of the defensive system I lead towards Florence. Finally, the economic vitality was also given by sheep farming, the production of building materials, forest products (chestnuts, wood, etc..) distributed in local markets, beyond the Pratomagno and, most likely, even citizens. All these elements favoured the development of a substantial scattered settlement and the establishment of a network of road structures and infrastructures functional to the Lordship.

**3. Light archaeology, Territory.** The archaeological analyses of building structures, which fall within the scope of the procedures of 'light' archaeology, have had two main areas of investigation. Firstly, the analysis and detailed documentation of the technical and construction characteristics of the walls and, secondly, their historical contextualization and the productive environment. This methodological approach allows, first of all, to recognize the transformations over time (reconstruct the biography of the building) and, according to the most recent developments of the discipline (Brogiolo, Cagnana 2012), to establish a close relationship between the technical and chronotypological aspects of a building and the socio-economic and political dynamics underlying its production (Fig. 18).

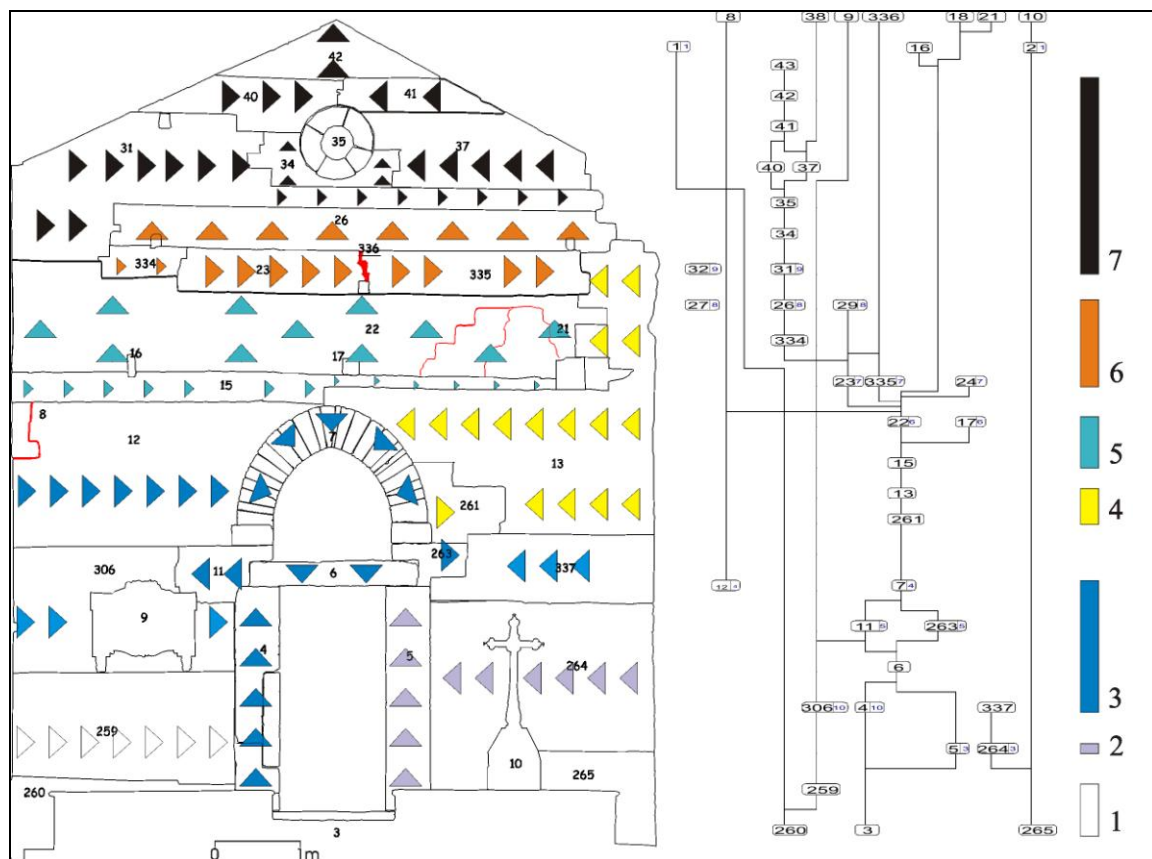


Fig. 18. Microstratigraphic analysis of the Romanesque building site of San Nicolao in Monsummano Alto, Pistoia (elaborated by Michele Nucciotti)

The study of historical building, in fact, based on the hypothesis that every type of power (citizen, lordly and ecclesiastical) corresponds to a precise form of building (Bianchi 2003), is a privileged tool for the analysis of the medieval landscape and its



most eloquent material witness: the building (building site procedures, organization of the production environment, the processes of acculturation of workers, technical environments and the client). A documentation (historical binders, lithotypes, finishing tools) that can be used for a philological direction also of the procedures of conservation and enhancement, as well as to produce thematic atlases of medieval building (Nucciotti 2015), designed, certainly to order critically a documentation capable of directing further stages of research, also as tools for a conscious planning of current building choices (structures and their contextualization). In this sense, the analyses carried out are well connected to the activities of restoration of the bridge and mill of Sant'Angelo (as well as the remains of the castle found during excavation), as well as to the recovery of the widespread heritage of the Solano valley (Fig. 19).



Fig. 19. Stratigraphic readings at the Bridge of Sant'Angelo in Cetica (elab. Chiara Marcotulli)

Combining archaeology and restoration, with these premises, means giving the project a trend that establishes a coherent programme of 'sustainable' intervention (non-invasive, economic, economic, trend reversal) between research (a 'light' archaeological



option), restoration (philological, conservative), communication ('virtual', selective), establishing a routine that avoids as far as possible reconstruction interventions to safeguard the original 'text' with an effective and lasting 'material' communication that research has also made it possible to document and understand: a model that could be understood, if not always necessarily alternative, conceptually different even from the best current routine, generally more or less "reconstructed". An approach that, one could say, with a "restoration that avoids restoration", lightening as much as possible the "additional", "replacement" or "reconstruction" interventions with respect to the original text and guaranteeing the highest level of maintenance of the same, instead focuses on a normal (and economic) "maintenance" of the site, suitably calibrated on local resources and traditions and, although supported by an improvement of skills, even essentially local, obtained with adequate training that accompanies the implementation of the project itself. In a nutshell: from light excavation to "sustainable" restoration (Fig. 20).

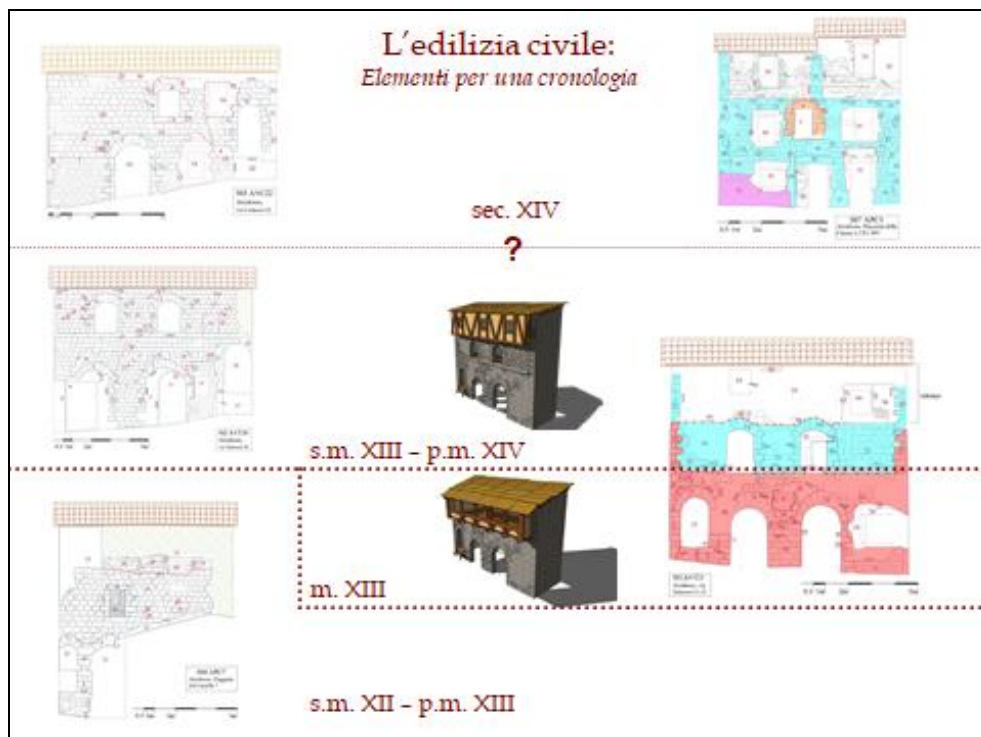


Fig. 20. An archaeology for restoration. Medieval civil construction at Arcidosso (Grosseto) (elab. Arianna De Falco)

There is, one could say, a certain maintenance of the memory obtained through the product of archaeological research, but also a preserved memory, through the maintenance of the archaeological deposit that exists not only in depth (excavation) but also vertically (built) and horizontally (landscape): and transmitting this second memory is important as well as dealing with the first and now that we can achieve it with many major options, also

offered to us by the help of new technologies applied to Cultural Heritage, our responsibility is much greater.

As for the operations of Landscape Archaeology on the widespread heritage in the Solano valley, we proceeded with toponymic surveys on a cartographic basis (IGM 1:25,000 in the edition of the 30'), integrated with the historical and cadastral; important was also the oral source, the only repository of some microtomes. Therefore, an extensive survey strategy was adopted on the selected sites (Cambi, Terrenato 1994; Cambi 2011) as a premise for intensive surveys on areas identified as 'fertile' or complex (Fig. 21)<sup>6</sup>.

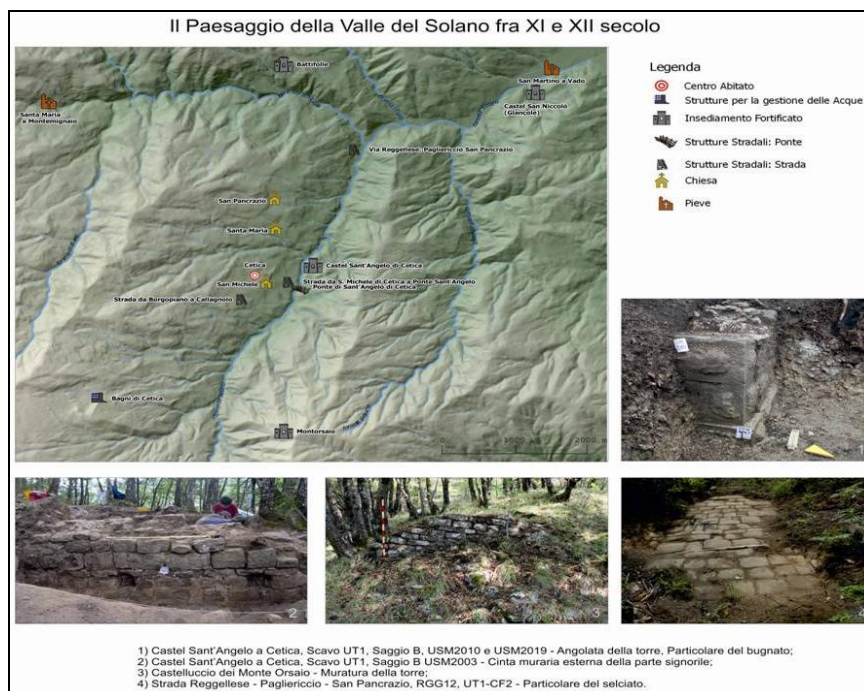


Fig. 21. Phase thematic map. Landscape of the Solano valley between the 11th and 12th centuries

The investigations carried out in the planned stratigraphic excavation had as their primary objective the study of the 'material history' of the site. The targeted excavation tests were carried out on the basis of the reconnaissance carried out and

<sup>6</sup> For this type of territorial reading and to better integrate 'The vertical with the horizontal', i.e. to allow a dialogue between the territorial surface survey with that of the elevated and the excavation, was used the system of filing and documentation of PETRAdata®, a database developed for the projects of the Chair and organized according to a principle of hierarchical archiving (NICCOLUCCI *et alii* 2000). The historical and archaeological data collected during the investigations in the territory have been processed through synthetic historical cartographies realized on GIS platform to better understand a multilayered and multiscale context. The maps have a double value: that of providing a valid tool for the protection instances, which can be used within the territorial information systems of local administrations, and that of providing support to research and historical-archaeological synthesis through the use of analyses aimed at studying the topographical and settlement interrelationships.

aimed at acquiring one of the fundamental elements of the settlement complex: the castle of Sant'Angelo, which extends over the hill overlooking the river Solano, separated from the mountain facing by a saddle excavated to increase its depth. The stately part was then identified, with the structures of the keep - of irregular polygonal shape (reminiscent of the dungeon castles of Northern Europe) - at the center of which there was the tower of subquadrangular shape, the size of a palatium, with a vaulted cistern at the base, the area of the town, the remains of the outer walls. In the area of access to the site there are some erratic boulders that show signs of tools used for the extraction of building material (Fig.22).

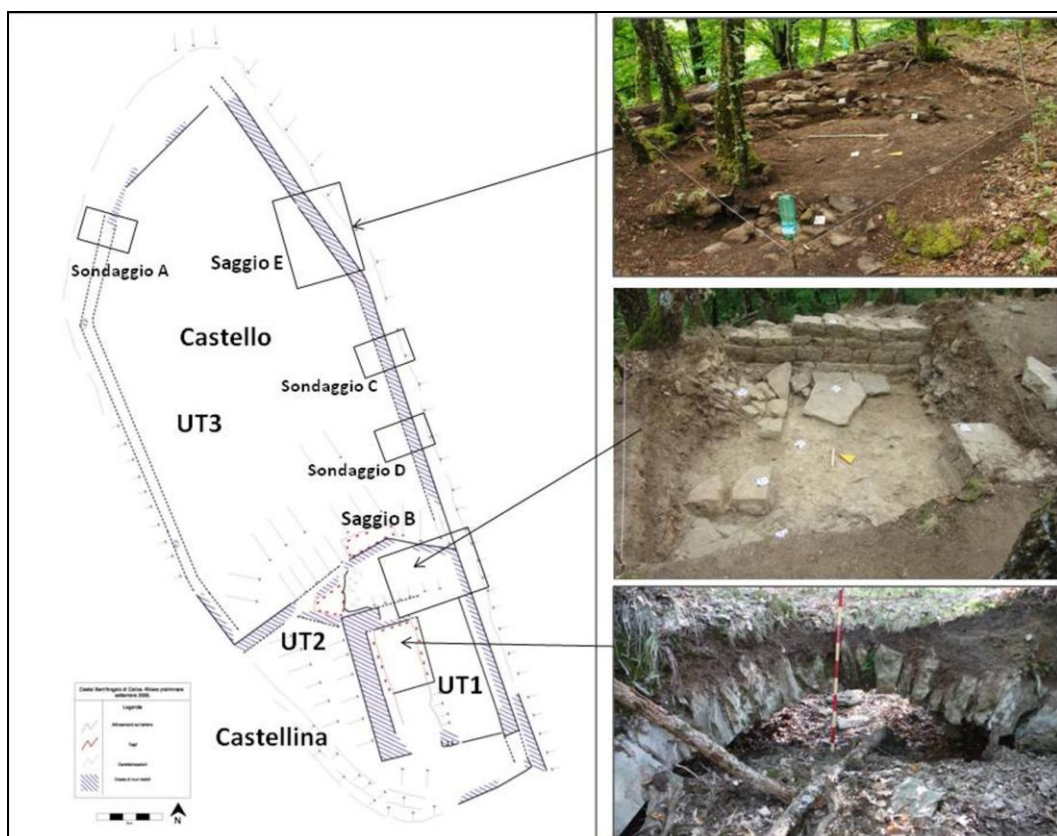


Fig. 22. Excavation of the castle of Sant'Angelo in Cetica



## II. The 'Bridge in Time': a case study

**1. Middle Ages, Casentino, Structures.** As part of the collaboration in Casentino (AR) between the Chair of Medieval Archaeology of the University of Florence and the Ecomuseo del Casentino (Union of Mountain Municipalities of Casentino - CRED service), the project "Il ponte del tempo. Medieval cultural landscapes", which had as its methodological experimental substance the combination of light archaeology and public archaeology and, as an object of study, the material development in the territory of the seigniorship of the Counts Guidi between the eleventh and fourteenth centuries. The reading of the historical landscape of the Solano valley, which in its development has been strongly characterized by the close relationship between people, environment and exploitation of natural resources over time, has been intertwined with the memory and recovery of the memory of the material and immaterial references of the current inhabitants of the territory and their direct involvement in the planned activities (Figs. 16-17 and 19, 21 and 22).

The restoration and safety of the ancient bridge of Cetica (Municipality of Castel San Niccolò, AR), a particularly dear artifact to the community, seriously compromised and at risk of collapse, was an opportunity to develop an integrated research and development program, centered on the 'territorial system' represented by the bridge, from the mill and the Castle of Sant'Angelo, significant from the point of view of medieval history, as it preserves the archaeological evidence relating to important historiographical issues, such as the relationship between the owners of the castles, the Guidi, the historical road network and between these and the production structures of the territory. The project also aimed to study the 'material' aspects of the territory that from the Middle Ages to the present day, mark the landscape of the Solano Valley (Figs. 16-17 and 19, 21 and 22). The recovery of the historical spaces has taken place through the study of the territorial structures and of the manufactured articles of daily use recognized as 'significant' by the community, investigated with the methodologies of the light archaeology (that integrates to the archaeology system of the elevated and landscape archaeology on *ap-posita* archaeological base with targeted interventions of stratigraphic excavation) integrated to those of the public archaeology (see above §3). The peculiarity of the project was therefore the way in which the forms of feudal settlement were studied in a concrete territorial case, the historical vicissitudes of the Signoria dei Guidi, with the value of a case-study representing widespread realities, combined with a dimension also cultivated in experimental forms of models between communication and indications of governance of the results of the research (such as the innovative methodologies adopted) tested as 'public archaeology' procedures and consolidated here (see §I.2).

**2. Heritage, Participation.** Such cultural planning must have an overall vision of the territory and archaeology here is to be considered a resource for the knowledge of the environment in which we live, for its development and, at the same time, is an active component of the contemporary landscape. In other words, it is strategic to pay scientific and professional attention to the relationship between the products of research and the use of a selection of these. In order to do this, dialogue with local communities is fundamental, so that there is a recognition of value that constitutes the propellant capable of guaranteeing, over the long term, the conservation and protection of a Heritage that is perceived as its own and as a talent to be passed on, enhanced, to subsequent generations. It is one of the tasks of public archaeology, to anchor the cultural good in a way we could say consubstantial to public enjoyment (Fig. 23).



Fig. 23. The community and the system of Sant'Angelo a Cetica: the bridge, the mill and the castle

The fundamental element that guided the development of the project was the participatory component of the people who live in the area. The local community, already protagonist in the definition of a 'Community Map'<sup>7</sup> of the Upper Solano Valley, was also

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<sup>7</sup> The Community Map is a tool with which the inhabitants of a given place have the opportunity to represent the heritage, the landscape, the knowledge in which they recognize themselves and want to pass on to the new generations. It highlights the way in which the local community sees, perceives, attributes value to its territory, to its memories, to its

involved in the identification of a series of 'widespread worksites'<sup>8</sup> of the territory in order to recover, enhance and make known some material evidence that, together with the bridge of Sant'Angelo, would identify a network of references to identity, but also of emergencies of tourist and cultural interest (Fig. 24). Restoration of chapels, springs, washhouses, sections of pavement, reopening of ancient paths, are some of the sites completed that have made it possible to make known and recover small, but significant structures of the local heritage (Fig. 25) (Molducci 2019).



Fig. 24. Participatory route and Community map of the Solano Valley. The arrows indicate the 'widespread sites'.

transformations, to its present reality and to how it would like it to be in the future. A new concept of territory is concretely explained, which is not only the place where people live and work, but which also preserves the history of the people who lived and transformed it in the past, the signs that have characterized it over time (Rossi, Mugnai 2015, 117-119; on the Community Maps see also <http://www.mappadicomunita.it/>).

<sup>8</sup> That is to say, sites for the recovery, restoration and enhancement of the widespread heritage of tourist and cultural interest, of small monuments that are configured as an identity reference of the individual nuclei that make up the scattered village, typical of this area of Pratomagno. The 'widespread worksites' organized in agreement with the public administration, have provided, during the work the presence of archaeologists, interested persons and volunteers from the local community who have assisted in the construction work carried out in different ways (municipal workers or with a call for tenders).





Fig. 25. 'Widespread worksites', for the recovery, restoration and enhancement of the territorially diffused heritage of tourist-cultural interest, carried out by small 'mixed' teams of specialists with the active participation of members of the local communities

The community has been involved in the knowledge of the results of the research in which it has been active through targeted communication interventions, involvement in specific archaeological activities and educational programs aimed at families, but especially at schools in the area still in progress. In this way, the meanings assumed socially and locally by the heritage have initiated processes of active conservation. The artifacts thus studied and discovered, in turn, refer to a knowledge and technical expertise characteristic of the area since the Middle Ages: the working of stone. This activity is still one of the main aspects of local economic development and is documented at the Museo della Pietra Lavorata di Strada in Casentino and at the educational information centre at the foot of the castle of S. Niccolò (Molducci, Rossi 2015; Bargiacchi et al. 2015; Vannini, Molducci 2009), opened thanks to the research carried out and to be considered important results of the project and which mark the territory (Fig. 26).



Fig. 26. Museum of worked stone - Interpretation Centre Ecomuseum of stone Castel San Nicolò-Strada.  
Educational and communication activities

**3. Community Map.** Originally, the 'system', consisting of the Guidi, of the bridge, mill and castle of Sant'Angelo has strongly influenced the formation and perception of the landscape over time and has been reported by the population in the 'Community Map' as a 'significant' element of the territory of primary importance and at the same time has activated participation and widespread involvement in the process of historical knowledge of the territory.

A conceptual approach of this kind is well connected to light archaeology and to the main object of its research: the territory in its cultural and historical evolution. If in fact "the territory is the great accumulator of what remains of the activities carried out by man since time immemorial. It is a museum of cultural evolution" (Mannoni et al. 2001) and is known through the archaeological study of the relationship between people and the environment in ancient times and the relationships between people and the people in the context in which they lived (Barker 1986), with public archaeology the population compares and acquires the awareness that the territory, whatever it is, contains a widespread patrimony, rich in details and especially a dense network of relationships and interrelationships between the many elements that distinguish it, a set of invisible relationships between these elements (Bodei 2009). In the process of approaching the knowledge of things, but also in the course of their effective material construction, both individuals and society project affections and symbolic values. In fact, to different extents and with different degrees of awareness,



each human being pours loads of meaning on certain things, incorporating them into his own value horizon<sup>9</sup>.

This is the case of the Community Map of the Upper Solano Valley, the first example in Italy of a Community Map integrated with archaeological methods. The operational meetings were carried out by a working group composed of different types of inhabitants (young, old, old and new residents) which represented the central element of the whole process. The members of the group guaranteed the collection of information, but also acted as 'facilitators' with respect to the rest of the community, as well as carrying out the fundamental action of interpretation. The cultural boundaries that coincided here with that of the 'peoples' around whom the inhabitants were organised during the Middle Ages were highlighted. Through questionnaires, meetings in the hamlets and collective returns, a microcosm has re-emerged, made up of a close relationship with local resources (water and forest in the first place), migrations, occasions for festivities and meetings, and rituals. An important place, in this regard, has been given to the bridge of Sant'Angelo, the castle and the mill, but also to a series of minor testimonies (chapels, washhouses, springs, stretches of ancient roads) spread throughout the territory. The complex stratigraphic vision of the territory and its culture, together with the structural permanence of certain stretches, give us an image of great depth and richness of the places we live. And it is here that the community map is strongly intertwined with archaeology (Maggi 2009). The actual result and value of the map also consists in the actual use it will have within the context that produced it (Molducci 2019).

It is in fact on the result of the Community Map that a research program of light and public archaeology was set up, which included stratigraphic analyses of the elevations at the mill and at the propaedeutic bridge and in close relation with the restoration, territorial archaeology investigations that had as their object widespread emergencies in the context of the Solano Valley, while targeted excavation interventions were carried out in the castle of Sant'Angelo. A fundamental role in the identification of historical sites and their placement in the background of the landscape were the oral sources, narratives and stories of the inhabitants of the territory.

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<sup>9</sup> The transubstantiation of Objects into Things - cause, that is what we consider so important and involving as to mobilize us in its defense - implies the sedimentation of a plurality of senses, meanings and symbols ranging from the knowledge of the origins of the Things themselves, to their different uses in time and space, to the affections and thoughts that may have produced. The investigation of these aspects allows a generation to share the historical era of those who preceded it. Things are born and die, enter and leave our space-time horizon (Bodei 2009, p. 12).



4. *'Widespread worksites'*. One of the fundamental aspects that has developed is the relationship between research and local authorities - also through a dense network of agreements between the many public, private, local, central authorities progressively involved - in the management of the territory for the enhancement of cultural heritage in favor of local communities residents. On the basis of the types of investigation, analysis of archaeology of historical buildings on the structures of the mill and archaeology of the territory in the context of reference, centered on the three emergencies characterizing the 'Cetica system', roads, mills, castles, but in particular with the 'widespread construction sites', a fundamental collaboration has been established with the people who live in the area and know in depth aspects of everyday life in a historical and anthropological key through the involvement of voluntary associations and / or individual citizens concerned moved by interest in our work and the small monuments of their territory.

In parallel to the 'light' surveys, in order to reconstruct the historical and landscape context, the 'widespread sites' were experimented; common spaces for work, living together, moving (washhouses, boundary stones, paved) that for the individual hamlets of the upper course of the Solano play a function of self-representation of the population and sharing. The settlement character of the valley is constituted since the comital domination by small towns or scattered houses that are organized, over time, in particular for the exploitation of territorial resources. Among the various actors involved, the archaeologists have started the procedures for the supervision and documentation of the works and to direct the phase of restoration. The sites were open, with an activity of communication and teaching (to make known the procedures of archaeological documentation and tell the historical and cultural value of the artifacts).

In summary, the widespread sites have followed three methods of implementation:

- archaeological reconnaissance surveys integrated with didactic actions carried out by the university in collaboration with some inhabitants of the area;
- contract by the local authority, preceded by archaeological and communication surveys, to professionals for the recovery and conservative restoration of specific architectural works (for example, the chapels in La Porta and Barbiano, stone washhouses still in use by Valgianni and Le Lastre);
- operations of identification, cleaning and reopening of sections of ancient paths connecting with the villages, carried out in close collaboration between researchers, students and residents.

Finally, with the participation of the community, a series of panels was set up

specifically dedicated to the various interested places in the area to indicate the interventions carried out and to disseminate information of a historical-territorial nature. All this confirmed the value of the 'small work' for the inhabitants and allowed to create more references for a guide (later on paper) for visitors from outside.

**5. *Ecomuseum, interaction.*** In the last phases of the project, the activities carried out were directed towards the creation of the Museum of the worked stone. Interpretation Centre Ecomuseum of the Castel San Niccolò-Strada stone, which aims to study, document, interpret and pass on the varied heritage linked to the stone, in its material and immaterial components, present in the Solano valley and in Casentino in general, always on a broad territorial basis investigated with the 'light' approaches and 'public' forms of archaeology (for example through the recovery of 'non-expert' knowledge present in the territory through participatory methods for the definition of a community map). In complementary relationship with the museum, in the village below the castle of San Niccolò, there is also the "Centro Informativo Il Ponte del Tempo", former ecomuseum of the Castle Civilization, which hosts didactic-informative cards dedicated to the interventions made, as well as models and information panels. There are also a series of tools and stations to experience live the traditional chiselling of stone and be involved in order to learn, through the direct use of hands, techniques and tools at the origin of the same artifacts. In addition to this, there are specific workshops for the explanation of the realization of works such as the dry stone walls, the bridge and the castle (Molducci 2019, Bargiacchi et alii 2015).

The musealization described above is one of the main results. Next to it, tourist-territorial routes have been identified for the knowledge of the Solano Valley and the scientific publication of the results of the research. On the one hand, the research activity on the territory continues with the direct involvement of interested people and on the other hand, in collaboration with the Ecomuseum, territorial animations have been activated with themed workshops on stone, play and the promotion of knowledge of medieval culture (medieval dinner philologically correct). Periodic visits of archaeologists and environmental guides have been activated on the territory. The dissemination of the results of the archaeological survey of a territory, passing through the practical activity and the close relationship between research and teaching in schools was one of the special features of the project, which gave rise to thematic educational paths for schools and families, from the museum and the

territory, included in the wider offer of CRED - Ecomuseo del Casentino in collaboration with the Spin-off Archaeological Laboratories St. Gallen.

**6. Culture, Sharing.** One of the main results of the research was the recognition of the structuring of a valley economic system built by the Counts during the Middle Ages using water resources, with the construction of factories, the forest system and the one relating to the extraction and processing of stone. One of the main effects of the research could be to be able to support the stonemason's profession in the future and contribute to its conservation and qualification through the establishment of a specific school (Fig. 27). Vocational orientation and training can certainly help to invert certain cultural schemes, even if they are increasingly obsolete, which would like to relegate the stonemason to a past that is no longer reproducible. In reality, the figure of the stonemason is very modern, just think of the construction sites related to the conservation and restoration of the huge architectural heritage and not local, which require more and more specialized and competent figures. The themes of confrontation and exchange with the world of design and art are undoubtedly themes to be explored also to get out of decorative and formal schemes that risk becoming obsolete. Respect, reciprocity and the will to get involved must, however, be able to materialize in effectively motivated subjects (Bargiacchi et alii 2015, Molducci, Rossi 2015, Molducci 2019).

This is perhaps one of the main results of the project, which was born with a view to sharing and enhancing research, the assumption that public archaeology corresponds, therefore, to a social responsibility of archaeology, in assuming a role that is not limited to study and research, but meets the needs of cultural growth and socio-economic development of a society.





Fig. 27. Stonecutters of Strada in Casentino. Section Museum of the worked stone. Activities, tools, works and history of the families dedicated to this: the Rialti, the Colozzi, the Carletti. Didactics with scapellini.

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## **The Value of Cultural Heritage.** **Between architecture and historical archaeology, from relief to restoration**

1. *Architecture and conservation.* The training of an architect involves, at least in Italy, a series of in-depth studies from a historical point of view in relation to the work of ancient colleagues, such famous as Michelangelo, Bernini or Borromini. What is even more intriguing and difficult is the comparison with all the other colleagues of whom we know nothing except their ‘ideas’ made by arches and pillars, that dot our country and the Mediterranean and European area.

The real question of an artefact’s value is not its technological aspect, which must be investigated, nor even its formal aspect, which must be understood. The real question is certainly the idea that it produces and promotes it. The idea is a cultural climax of the time that is shared by a society and that therefore reaches a deep expressiveness that makes it valid until today. Just for this reason, it will be valid for us, because it is an idea that speaks to us and that, changing over time, continues to mean something in its contemporaneity.

The vision may seem romantic, but it is not at all. There is no contemplative attitude but a search for a dynamic principle that any artefact can be valid as a common heritage.

In the field of recovery and restoration there are a series of cognitive and diagnostic actions that promote a very deep level of knowledge, or at least should promote it.

In the meantime, let's give a value to the words: restoration, conservation or project are actions, perhaps complementary, but they are very different one from each other and no one can exclude the other. In an ideal methodological systematization, we can say that to face a certain artistic architectural artefact we should proceed according to a logic that is composed by:

*Acquisition of information*, taken directly from sources or outlined by historians (climax) and those recovered from the first and recomposed by specialized archaeological studies (light archaeology);

*Landscape and inspections*, which means understanding the artefact in its morphology and in its territorial context, according to a methodological observation linked to the culture of the operator and its inclination to ask questions to the artefact

itself and to the territory that hosts it;

*Architectural survey*, which is a particularly complex part of the cognitive action. The survey of architectural structures doesn't mean simply taking measurements in an accurate and scientific way, or just acquiring high reliability data as if we were the 'tailors of architecture'. Architectural survey means a search for the thought beyond the constructive design. It is a direct comparison between us and the architect of the past, finding a way to enter his atelier and share his choices. This means treasuring the interdisciplinary work that has been focused on up to that moment, without believing in having absolute truths in one's hands.

*Restoration, Conservation or Project*: these terms are not synonymous and they don't achieve the same results.

**2. The Restoration.** To clarify the concept of Restoration we present eminent scholars who explain what it is and, in the meantime, we point out that the action of restoration is never a technical one.

According to Giovanni Carbonara, "Restoration" means any intervention aimed to preserve and transmit in future works of historical, artistic and environmental interest, facilitating their reading and without erasing the traces of its passages in time. It is based on respect for ancient substance and for authentic documentation constituted by these works and it is proposed as an act of critical interpretation not verbal but expressed in the concrete work. More precisely, it's a critical hypothesis and a proposition that can always be modified, without irreversibly altering the original". According to Paolo Torsello "Restoration is a system of knowledge and techniques aimed to protect the possibility of interpreting the work as a source of culture, so that it is preserved and updated as a permanent source of questioning and transformation of languages that we learn from it<sup>10</sup>. Preserving is a more internal technical action and a consequence of that of restoration, while executing a Project on a culturally relevant asset becomes an action that makes the contemporary perspective prevail over the historical one. Nothing is right and nothing is wrong, we should honestly say that everything depends on the first three moments of knowledge or should be so. There are no guarantees for a fair project, but there can be guarantees for an honest project.

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<sup>10</sup> C. Feiffer, *Le tendenze del restauro italiano tra conservazione, recupero, restauro e ripristino. Saggio sulle immagini di Anna Raimondi*, in *Il restauro della Porta di S. Pietro I a S. Pietroburgo*, QA, "Quaderni di Assorestauro", Milano 2007.

A speculative consideration: if a system naturally evolves towards a state of ever-increasing Entropy (S), the action of conservation and restoration is an anti-entropic action. It aims in fact to conduct a physical phenomenon in the opposite direction to the law. Now there is another phenomenon that opposes this physical rule and it is the order of the molecules and their specialization when they begin to constitute a living organism. Just speculating on the concept of entropy, we can say that life is anti-entropic and if an artefact continues to be vital falls fully in the legitimate possibility of opposing the degrading disorder.

That's why we can afford to define an artefact as an architectural organism or organic environmental system, for that the value of any artefact is inextricably linked to its vitality and epistemologically what affects the vitality of thought. The thought remains vital, which is perfection if composed and organized in the duration of a lifetime.

While the first two aspects of a site knowledge have been well expressed in the previous contributions, the following one need to be studied deeply. In these phases, in fact, a direct and timely comparison is made by all specialists of this field to obtain a unique result: sharing the value of the site with the architectural monument that makes more visible the intellectual watermark in which it is immersed.

As we said, the intellect is the promoter of the logic with which measure, geometry and spatial relations constitute an artefact that interacts giving meaning to its context. It seems necessary to start from less practical concepts to explain practical scientific actions because most of the artefacts that constitute the cultural heritage as defined by UNESCO obeys an absolute relationship that is often overlooked or even worse ignored by us technicians.

This dimension is part of the holistic vision of the past and it has determined the most powerful sites in the history of the world we know. The relationship man-Pantheon or man-God is crucial to what we go to study and try to preserve. That's why it's necessary to place us towards the right perspective and study the mystagogue principles that decide primarily an environment and a monument.

The transcendent dimension determines decisively what is realized in the sensitive world. Entering the world of ideas is therefore the task of the survey: a critical survey that approaches any architectural event with the awareness of starting at a disadvantage. Why? Because generally we are facing with an event that has been completed and transformed over time, sometimes it's a ruin, sometimes it's an imposing building, but always in a non-original state.



**3. The architectural survey.** Keeping in mind the premise, which is very short summary of concepts that deserve to be deeply studied, we must clarify what is an architectural survey. It can surely be carried out by technicians who provide all the work to restorers or designers who use it according to the principles of good practice. In this case, the survey becomes a graphic matrix of "reliable" measurements, but in fact it does not increase the knowledge of the object detected by anything.

Instead, it is considered necessary for any architect to study the structure and measure it at an almost maniacal level of depth but instead it's important to trigger the real relations of the building to understand its attitudes and potential.

The system of integrated surveys (that links direct survey, topographic survey, 3D survey, and photographic survey for three-dimensional models) is crucial for the knowledge and for what can be subsequently consolidated in the life of the building itself.

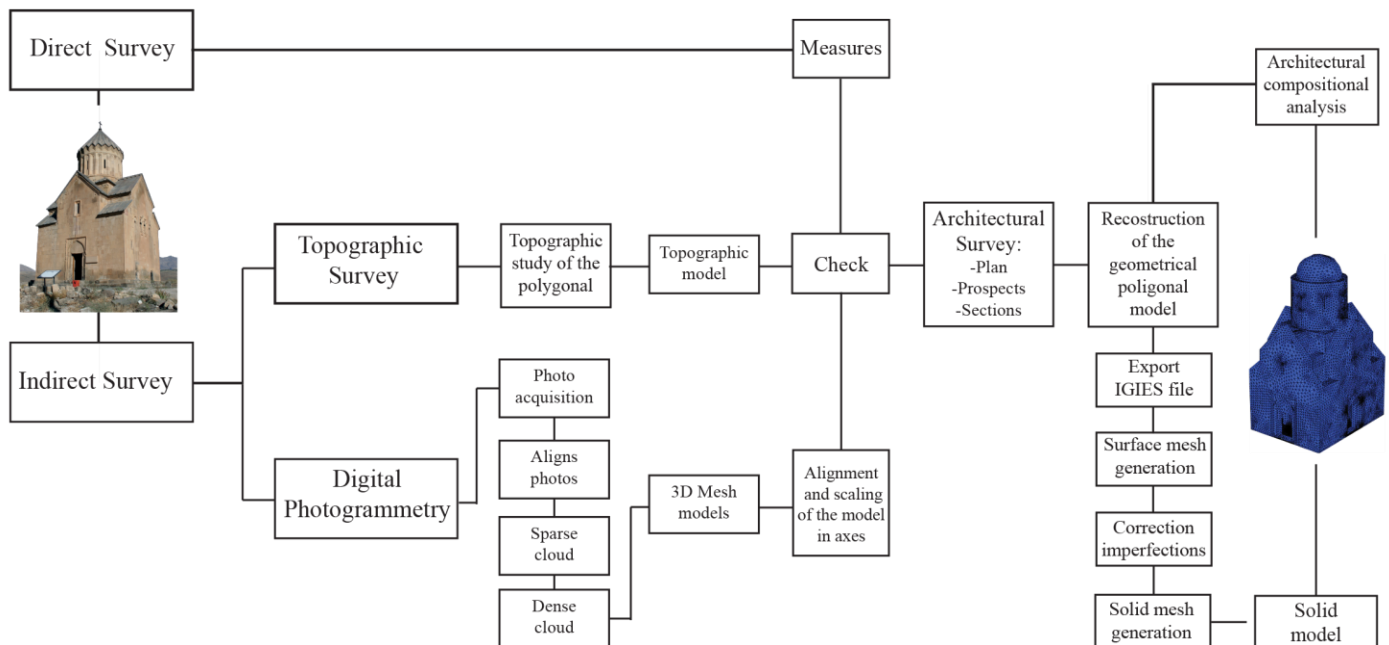


Fig. 28. Example of the operative scheme applied on the church of Areni, in the Vaiodtzor in Armenia

Above, a schematic representation of the working method that is intertwined during the campaign to raise the measures (Fig. 28). In the heart of the synergistically set up elaborations, there is a moment of control. In this phase, the integral survey controls the different aspects that emerge from the qualitative point of view of the measure. The acceptable error of the survey is declared, necessary for the next

outputs that will be produced.

Flying above the technical operation phases related to the different software typologies that are used, we can say that the endotypes for direct raising and raw cloud are already themselves a documentary phases to keep intact and if possible catalogued in the dossier of the monument.

Graphic elaborations as plans, sections and structure elevations, are used for another field study carried out with archaeologists that consists in the activities of light archaeology. That is, the reading of the wall facade (Fig. 29). The definition of the work must therefore be reliable and faithful to determine the facades of internal and external walls without ambiguity. Currently archaeologists and architects are working side by side on field in two opposite directions. One direction goes from the particular to the general, the other one vice versa. On plans and sections, the architects look for proportional geometric relationships to understand the structure, while the archaeologists enter the phases of construction. The two types of observation achieve a unique result in relation to the building structure, adding informations as the number of employees at the site, the timing of the site itself and if it has undergone transformations not documented by historical sources.



Fig. 29. Elaborated studies with ortophoto, where it's possible to detect the texture of the walls and the chromatic quality of the product

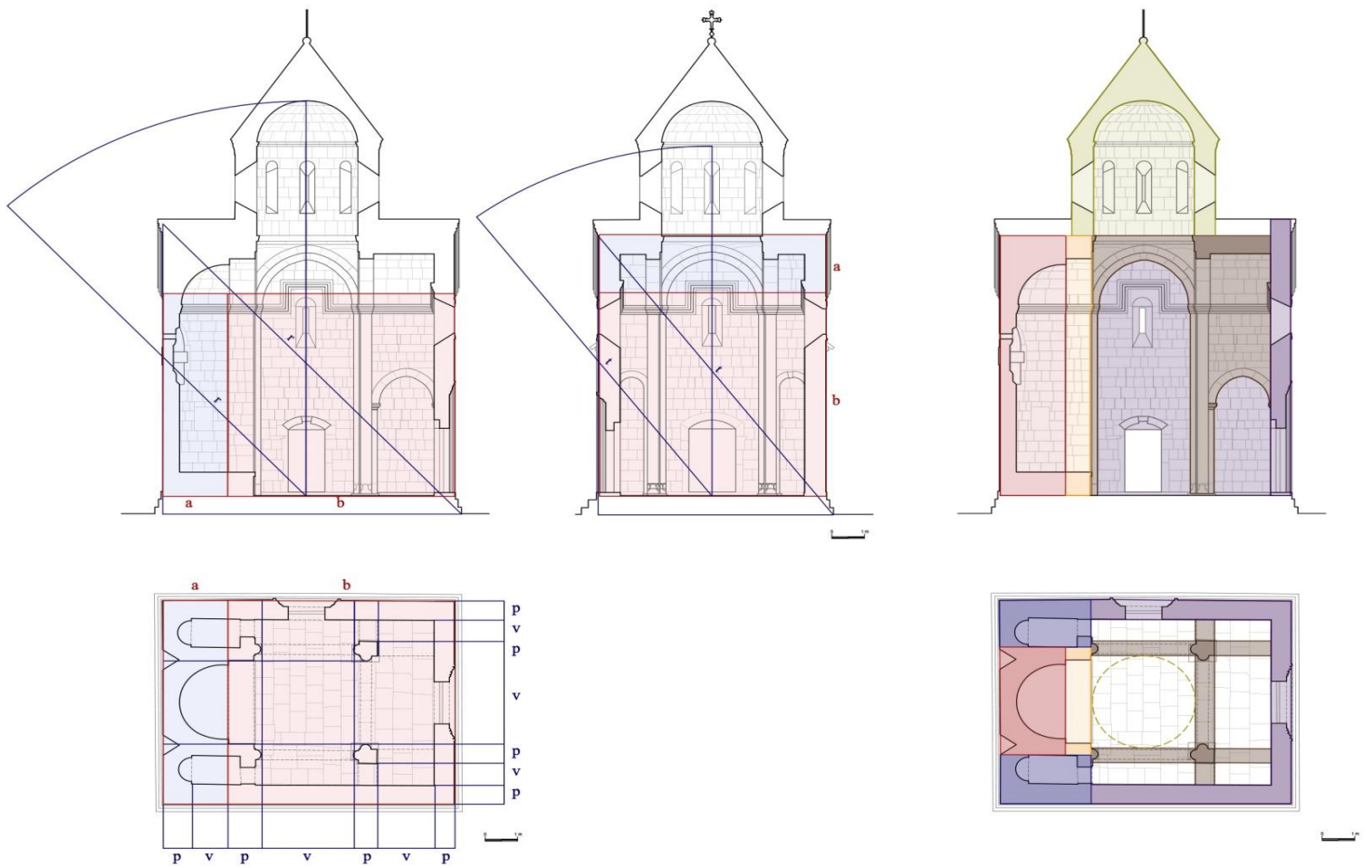


Fig. 30. Example of study of dimensional relationships and analysis of architectural devices that compose the structure

The study continues with the research of proportional relationships of the artefact (Fig. 30). This type of reading is based on the precision and accuracy of the survey but it goes beyond the metric data, using only geometric relations. This should be done to keep in mind the practice aspects of a construction site and to learn to acquire a design mentality that excludes the use of the measure as we consider it and investigate the communicability of the design by the fellow director of works of the time.

From this reading we can notice how structural relations perfectly link the three dimensions of the building, and all the three appear in the plan with a particular building rhythm marked by full and empty spaces. The scheme we propose in this case has the characteristic of being palindromic (Fig. 31).

We would like to point out, in fact, that both transversally and longitudinally the alternation of Full (p) and Empty (v) spaces composes a rhythm that in the two directions is such that the movements and implementation of the materials are similar for the two directions. This implies the possibility of having two teams of masons on site. This seems trivial but for a building site is important to not confuse the actions of worker groups. This allows the site manager or ‘magister’ to give directions on the construction without always being present. Another peculiarity is that all the



measures in elevation that define the height of the arches or the shell are "presented in plan", or the information of the whole are easily detectable from the beginning of construction on the floor of the basement platform. The site thus grows uniformly and gives the two teams the opportunity to check each other the good setting of the levels to arrive together with the tax plans that cannot accumulate error, for obvious static reasons (Fig. 32). Moving on to the post-production phase, solid models are extrapolated that are sufficiently versatile for structural compositional analysis. These give more in-depth information on the possible action of consolidation and static restoration of the architectural organism.

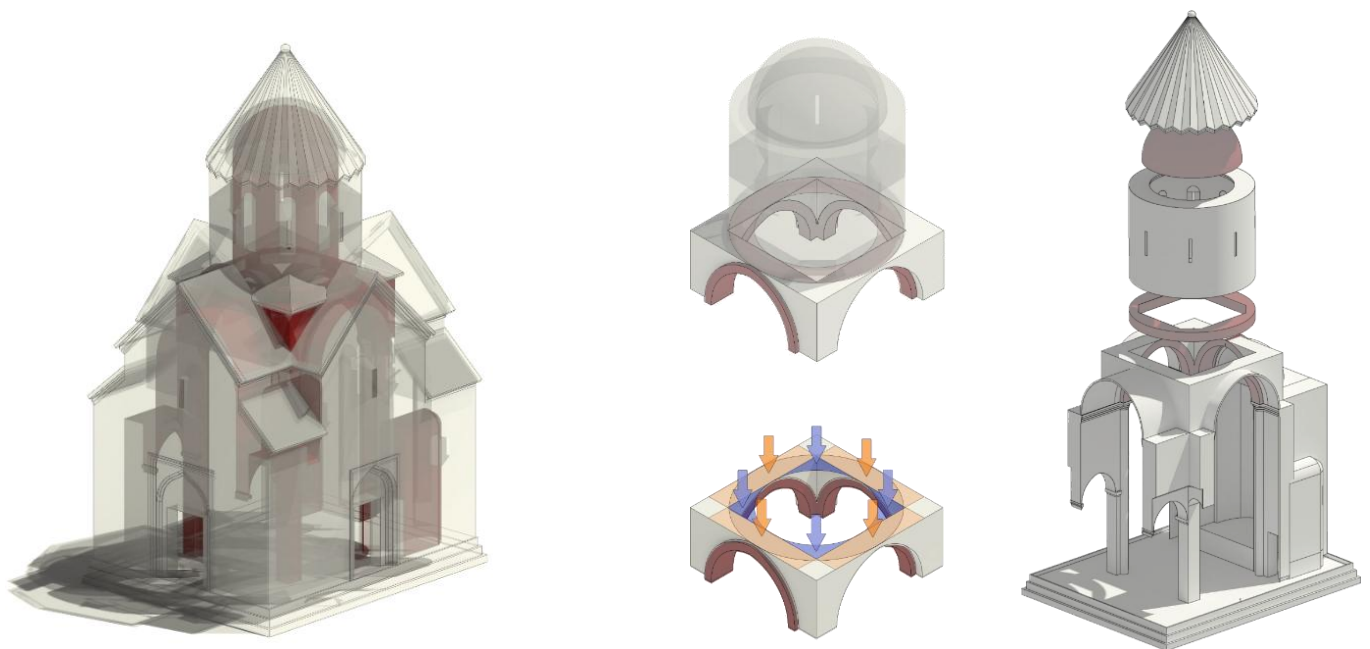


Fig. 31. type of modelling that joins the internal and external part trying to glimpse the wall thicknesses that we may not be able to define. The weight of the structure can be estimated within a reliable range, in order.

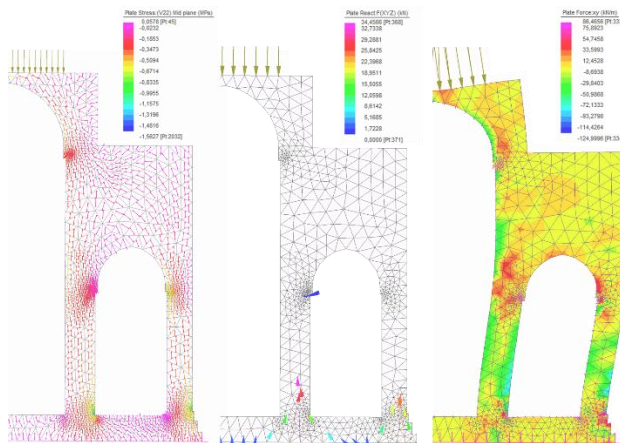


Fig. 32. results of the static analysis of the building. The areas of the structure subjected to the greatest stress are highlighted to estimate the static effectiveness and then the seismic susceptibility

For the sake of completeness, we would say that the analyses carried out on the structure are of two types: static and dynamic. However, to deal with this type of analysis, it is necessary not only to carry out a highly reliable survey, but also to carry out analyses and laboratory tests using both traction and compression of the materials making up the masonry structures, as well as to analyse the type of binder.

In this regard, it is better to clarify that there is a complex procedure for the acquisition of the material and that it must be done after the archaeologists have provided us with data on the synchronic areas of the structure. This because if we take material from an area where there was an intervention after the foundation, we would risk analysing incorrect data and extending unrealistic characteristics to the entire building. The relative chronology provided by the archaeological reading is obviously essential for the correct quality of both the analyses and the subsequent interventions. The methodology therefore wants that even in the laboratory and analysis of materials there is a close contact between the archaeologist, architect, chemist and engineer who evaluate the discretion of the input and the weigh the output.

Up to now, it's technically possible to carry out a critical survey capable of interdisciplinary dialogue with a technical staff and we can briefly achieve the reading of a single artefact. The case presented is particularly illustrative to be sufficiently simple to analyse. A good architect who detects a monument usually gets up in the morning and reaches the study site never taking anything for granted even if the structure seems to be very explicit and reassuring in understanding. So, in the morning, at first glance, the site is reached again to carry out a different work from

the taking of measurements: it is time for a reconnaissance of the context.

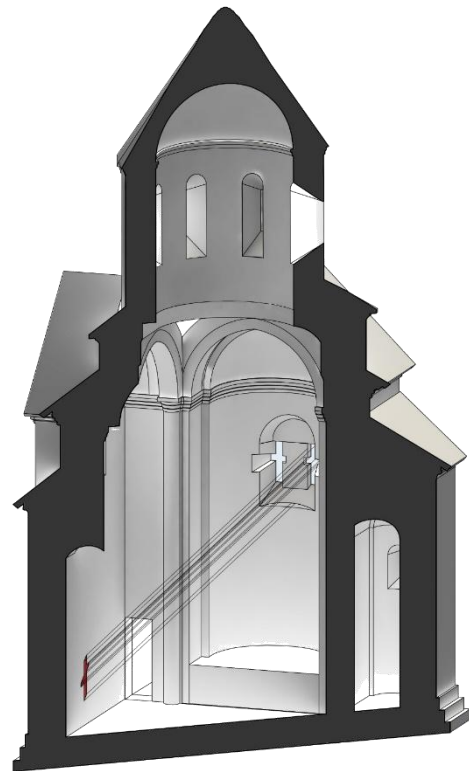


Fig. 33. October 7, at 12 o'clock local time, the sun is projecting a cross of light on the north inner wall of the church. The model reproduces what has been experimented and gives us interesting information on the structure and its surroundings.

A further look at our church, before continuing the reconnaissance and here we realize that a cross of light was well projected on the north side in the complete darkness of the inner hall. We immediately take a picture (Fig. 33). Then the relief focuses on the local latitude and longitude, with a small gap, the current system is calibrated on the magnetic north that is about  $7^\circ$  away from the solar one. We also had to make a gnomonic survey to define the local noon. Without bothering about how to carry out this survey, just know that it is enough to place a dial and a stake on the ground, then you just must wait a day and mark from time to time the trend of the shadow on the ground and relate it to the dial graduated. If the modelling and

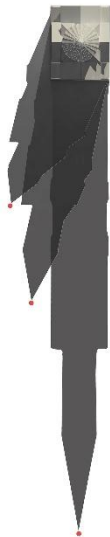


dimensioning work of the 3D model had been done with conscience and accuracy, the usual result would have been to obtain a software dedicated to the parallel projections of the solar beam.

Considering that there is an intrinsic error of both the model and the computer that does not conceive the sun as diffuse light but as a remote source. The result obtained has extremely comforted us both for the value of the work done and for the additional information that we were able to obtain.

This kind of observation told us about the monument according to its territorial dimension.

Fig. 34. Shadow projected by the church on August 15 during the morning until 12 o'clock local time. The church is dedicated to the Our Lady mother of God and on August 15 also the Armenian church celebrates Snit Mary Assumption.



The church itself seems to be a gnomon for its territory. In addition to mark the time of the liturgy with the internal projection through the windows of the apse, August 15 is perfectly oriented to the zenith to celebrate in this case just Mary to whom the church itself is dedicated (Fig. 34).

The indication that we draw is of the cultural climax, in fact, studies of gnomonic and astronomy had to be acquired at least by the designer, and the geometric control carried out on site had to be based on Euclidean geometries that incredibly contemplated also the projective geometry. It might seem a contradiction in terms but after seeing the domus Augustana on the Palatine in Rome, I would invite you to re-consider the ability of the classical world to "make perspective"<sup>11</sup>.

In addition to the cultural aspects, a critical observation suggests that there was

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<sup>11</sup> C. Luschi, *Studio proporzionale delle quadrature nella domus Augustana*, in B. ATERINI, *Spazio immaginato e architettura dipinta*, Alinea Editrice. Firenze, 2013, pp 34 - 36

no building around the church. The question is immediately denied, since historians tell us that there was instead a noble building right next to the church.

The architects say that if there ever was a tall building leaning against the church it must have been on the north side of it and nowhere else, precisely because of the intrinsic characteristics of the building's solar orientation. Argument accepted by the group of historians and archaeologists on the possibility of the existence on the northern area (some erratic remains was found on the northern side of the church) of a building structure of some importance.

If we assume that the survey on the field is finished, unless additional checks on questions still unspoken to do to the structure, we should move on to the phase of restoration or conservation.

Fig. 35. Photo of the ruinous collapse of the drum and the cover cap.



Actually, this structure has been the subject of a profound restoration action, because of a total collapse of the part of the drum, as the photographic documents received speak (Fig. 35).

In this case, we don't know if the reconstruction has carried out all these steps according of logic consolidation and restoration, or what kind of technology was adopted for the reconstruction. But it's interesting to comment on the choice adopted by the restorer, which can be summarized as follows: "how it was and where it was".

The choice of the restorer, beginning to discretize the cases, seems to us to be acceptable and not very questionable if not in commenting on the technique of restoration that we don't know so far.

Surely this monument is a territorial stronghold and therefore its formal integrity if no longer original in its entirety preserves the role and qualifies the whole settlement of Areni that in this church has its icon. The issue is to understand if this result is valid for any artefact or for all circumstances. The answer is obviously negative, just think of the magnificent restoration and consolidation work carried out on the Colosseum of Rome by Stern first and then Valadier. The Flavian Theatre has never been reconstructed in its entirety, but through consolidation according to a contemporary architectural action, the action of disruption has been stopped and underlined through

the materials and, I would say, clear and opposing geometries to the circular sign of the original structure, the new restoration project. Two spurs, one oriental and one occidental, which also distinguish themselves by intention, and I would say specifically by architectural composition. One may then prefer one or the other solution, but what it's worth is that neither of them has made a fake, but they have both made an original on an original dated.

One could argue that the example just mentioned is an out of scale, and it's in some measure as is the Bell Tower of San Marco, which instead collapsed because of a sudden trauma about the collapse of the material, and it has been reconstructed where it was and how it was, as it was desired by all Venetians. Yet the Romans had lived more with the Colosseum than the Venetians with their bell tower, however in the memory of the community the Colosseum has always been a ruin while the bell tower of the Venetians did not.

More recently, unfortunately, in Italy we are about to face similar choices because of the earthquake that razed the Basilica of Benedict in Nursia to the ground. The loss was total, and certainly traumatic, yet we will have to reflect deeply on the outcome of the restoration. From a cognitive and analytical point of view the basilica is documented and its history is made up of collapses and reconstructions always in different forges. Its medieval and Roman foundations are the only things that still year a sense of lacerated, the rest is an empty space. This hard test that awaits the restoration, will have as its limits precisely the two extreme cases proposed above.

It's not worth talking about the Temple of Aswan which, once moved, no longer dialogues with the sun as it has done since its foundation. What is the limit of good restoration practice or consolidation is the fact that a static problem is technically solved without dealing with the historical dynamics of the building and its context? So, for our study-case in Nursia, we should understand why each epoch expressed in its own way an "*affectum*" towards the Basilica, never falsifying its own expressiveness but always proposing the best that was available in the different periods. This is what we should do, learning; this Church of a thousand layers is a vector of time that has always set out on a new path but has never strayed from the watchful eyes of Saint Benedict in the square of Nursia.

So far what is measured and analysed from a physical and gnomonic point of view of a structure, but you should also verify some spatial qualities that becomes very important to know for a conscious act of enhancement of the good.



Let's conclude with the Casentino from where we started, and here we propose a perceptual study of the built space of the cloister of the Masks of the Abbey of Vallombrosa.

Its history, widely described in the beginning of the text, tells us about the importance of its constitution and how a city like Florence has always been concerned to have a close relationship with this apparently remote monastic site.

The cloister of the Mask, has a spatial definition to cloister, developed according to an irregular plan not perceptible from the entrance.

It is interesting to note that in correspondence with this uncovered environment the prospectus reverberates a full wall without openings.

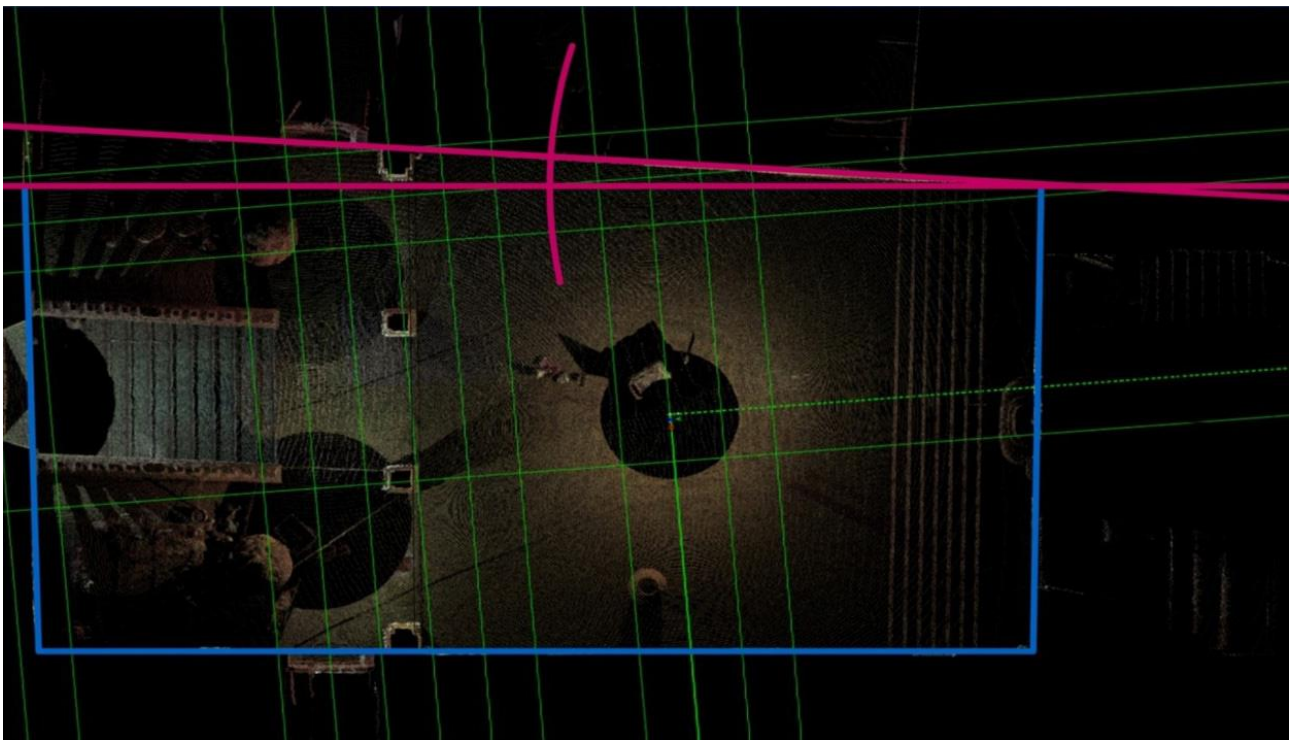


Fig. 36. Survey carried out with 3D laser scanner

The 3D laser scanner survey, integrated with the direct and photogrammetric survey, reveals a particularly wide planimetric deformation of the northern front of the cloister (Fig. 36).

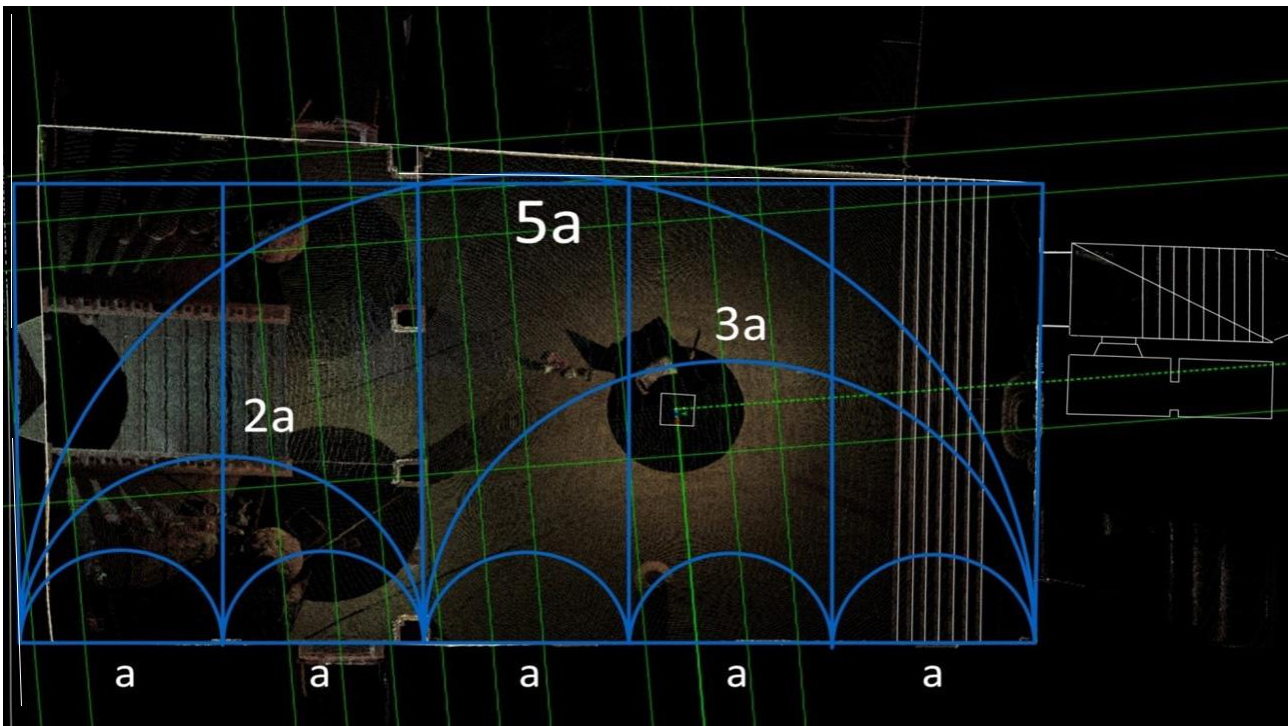


Fig. 37. The modulus relationship

The observations made in planimetry, revealed a project proportioned on a 1:2 basis internally divided into 5 longitudinal modules, two to adjust the entrance loggia and 3 modules to redesign the cloister (Fig. 37).

This regularity, inserted within a morphological irregularity, aroused a further question regarding the effort to regulate what was not in fact regular. The Florentine climax, as well as the proximity of the Florentine Grand Duchy family, the historical events, have made us inclined to investigate the small cloister of the Mask according to the dictates of *naturalis* prospective in full maturity after the debate of the previous century (Fig. 38).

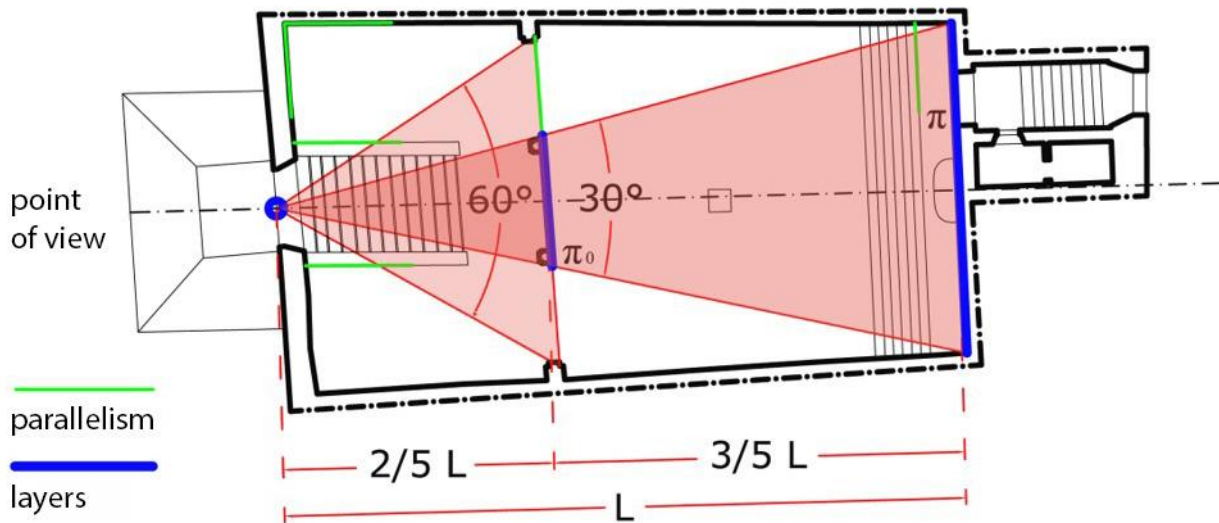


Fig. 38. The Cloister of the Mask

The critical reading has therefore sought from the proportionality of the planimetry the position of the perspective and projective framework, recording a breadth of the point of view almost as a textbook of projective geometry (Figs. 39-40).

Planimetrically, therefore, it was possible to trace the whole perspective project implemented, which however had to be confirmed by the high organization of the various registers.

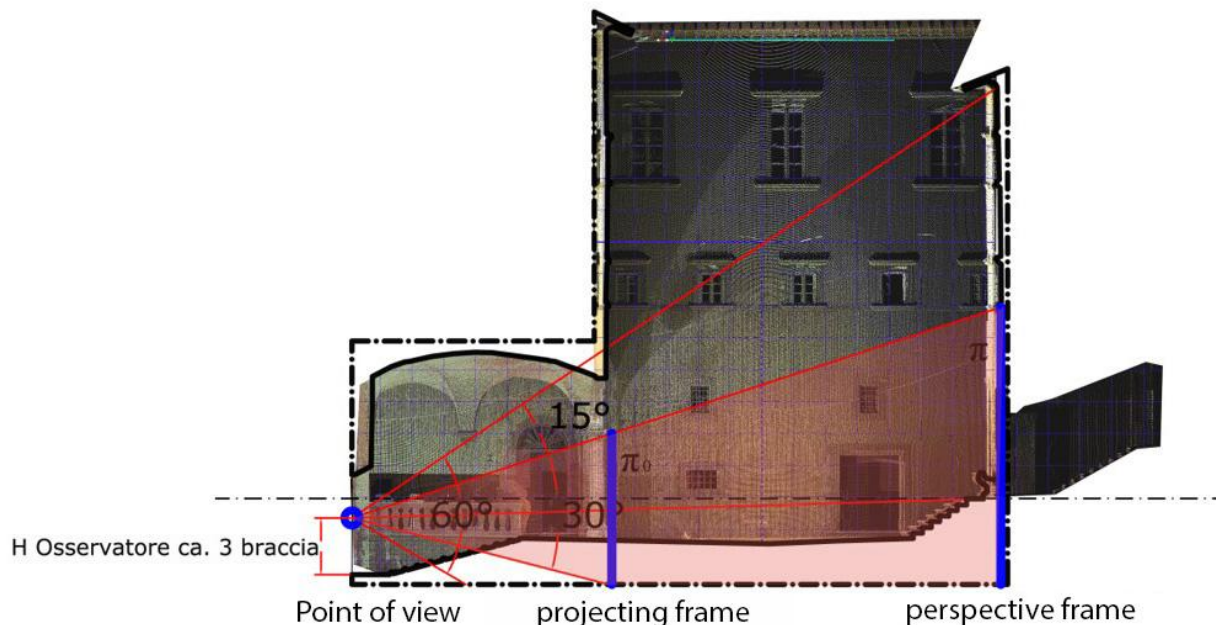


Fig. 39. In the section, theoretically applying the height of the observer corresponding to 3 Florentine arms, the main point of view was established and with canonical angular openings in the central perspective, the design of the entire cloister according to this geometric rule was confirmed.



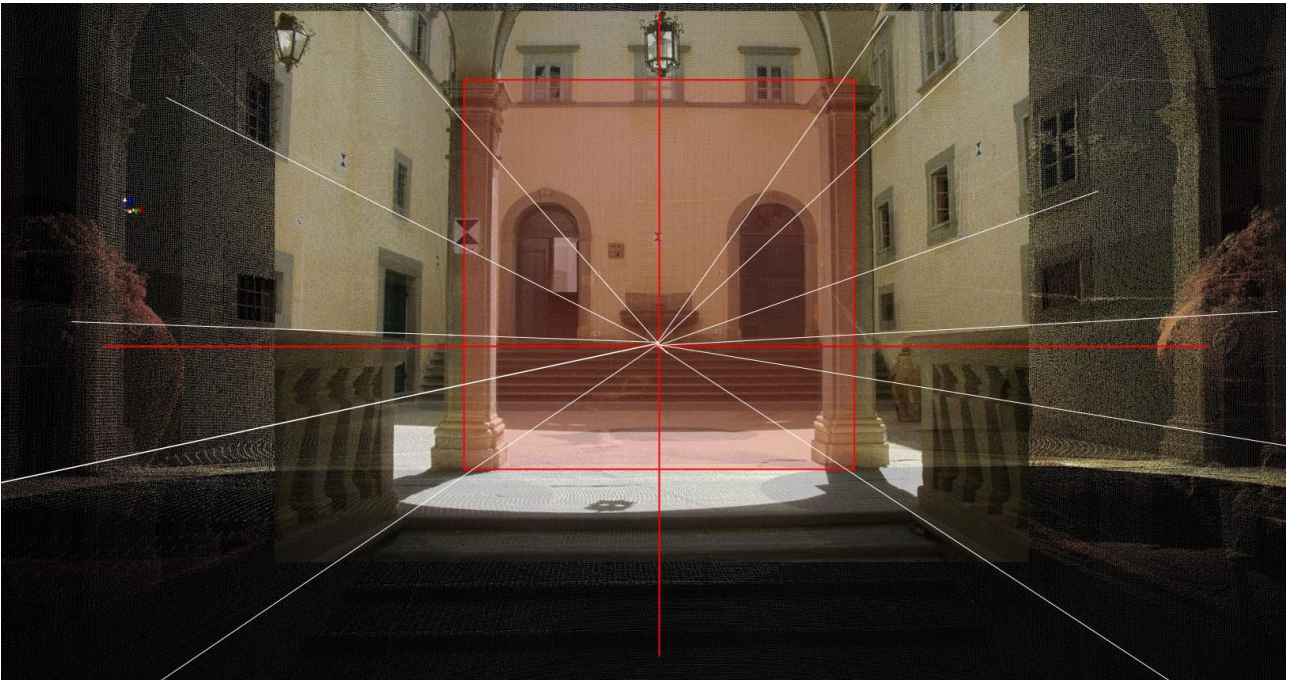


Fig. 40. The result sought was exemplified in a montage between a photo plan and a three-dimensional survey with the exemplification of the construction projected on the vertical plane and which in the main construction lines regulates: the centre of the projection, underlined by the source, the plane of the horizon and projecting, which regulates the height of the staircase leading to the internal block of the abbey, the escape lines that underline the alignment of the openings of the internal elevations.

All this makes us perceive as a symmetrical and regulated space which is not. It is an optical effect that proposes a design that will derived from the Renaissance feeling that wants to bring everything back to a formal balance and measurable to achieve the perfection of human creativity. Therefore, recovering this kind of site, given its design potential, it cannot be limited to its physicality, but it must invest chromatic aspects and safeguard alignments, including those own of the building. That is Architectural Restoration, actually.

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*Il chirografo* (handwriting of his own hand) of Pius VII was born on 1 October 1802; followed by the edict of Cardinal Camerlengo, it contained the measures to be taken to verify the complex of antiquities existing in the Papal State.

*Scuola di Alta Formazione e Studio dell'Istituto Superiore per la Conservazione ed il Restauro, Istituto Superiore per la Conservazione ed il Restauro*, now directed by Gisella Capponi, was founded in 1939 under the name of Istituto Centrale del Restauro, on a project by Giulio Carlo Argan and Cesare Brandi, to respond to the need to set the restoration activity on a scientific basis and to unify the methods of intervention on works of art and archaeological finds.

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