sous la direction de
LAMIA HADDA
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Villages et quartiers à risque d'abandon

Stratégies pour la connaissance, la valorisation et la restauration

TOME 1

FIRENZE UNIVERSITY PRESS

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Tunisie, village berbère de Zriba el-Alia (© L. Hadda)

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Cultures pour la conservation et la valorisation du patrimoine à risque d'abandon en Italie

THE PERMANENCE OF FORM. A METHODOLOGICAL PROPOSAL FOR THE RE-SIGNIFICATION OF DEPOPULATED SMALL TOWNS OF SARDINIA

Giovanni Battista Cocco, Caterina Giannattasio, Andrea Pinna, Valentina Pintus
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The ruins of Pranu Sartu village, hidden by the vegetation.

The process of abandonment of Sardinian villages is a topic of great interest nowadays, not only in various research fields but also in political debate and public opinion. The evolution of the Sardinian settlement system has been studied since the 1960s; but only recently these studies are turning, in a multidisciplinary way, towards the analysis of the current phenomenon, to understand the contemporary role of these villages, which are at the same time a fundamental component of landscape and cultural heritage.
Within wider research carried out by the Department of civil engineering and architecture and the Department of political and social sciences of the University of Cagliari on the topic of depopulated villages, this work aims at exploring the issue of values in architecture as an interpretative method aimed to support programs and plans of reuse or re-signification actions for small towns in Sardinia. The recognition of their historical, architectural and landscape qualities, supported by the analysis of social and psychological values, allows defining the cultural significance of the individual nodes of the villages settlement network, paying also particular attention to their current or potential importance for the communities that live and use them, in a stable, temporary or marginal way.
Values are determined through, on the one hand, an in situ survey, in order to understand historical and architectural values and, on the other, a socio-psychological survey. Thus, these are related through matrices, to translate the deep meanings of the system of the small towns into a holistic, composite and univocal representation, also to define strategies for their enhancement.

Keywords: abandonment, interpretation, values, communities, reuse.

Introduction. The wider research - CG

The national and international political debate has paid, for several years now, increasing attention to the issue of depopulation and abandonment of small towns, in consideration of its social, economic and cultural consequences. In Sardinia, the current scenario prefigures a gradual erosion of the historical settlement heritage which, due to a kind of 'domino effect', seems to rapidly amplify, with the consequent abandonment of ever-wider areas (Fig.1).
Interventions for resisting and contrasting the socio-demographic impoverishment currently underway can only be triggered by a conscious reflection on the geographically visible effects of the population decline that is affecting the local physical landscape, less and less occupied

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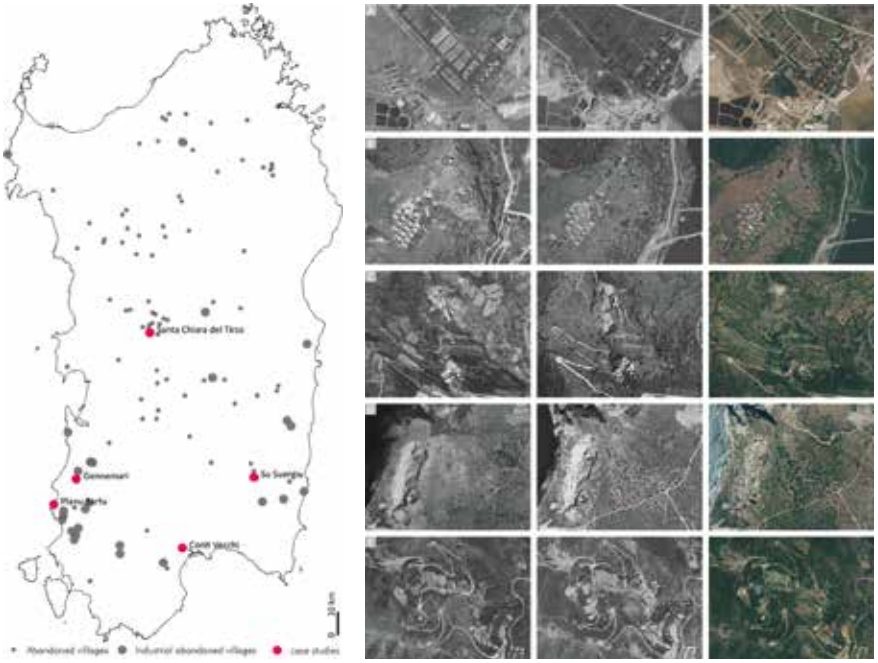

Fig. 1
The system of the abandoned and depopulated villages of Sardinia.

Fig. 2
The aerial photos of the five case studies. The picture shows, horizontally from left to right, the 1968, 2003 and 2013.

in residential terms. The centrality of the topic in the current context has also led the world of research and universities to invest their resources in the study of this phenomenon, in an attempt to contribute to the definition of actions that can stop, slow down or reverse the dynamics in progress. These efforts are aimed at exploring both the ongoing phenomenon[1] and the processes that have already taken place. In both cases, the aim is to deepen the study of the risks and opportunities for the protection and enhancement of the historical settlement heritage.

This contribution illustrates the results of the experimentation conducted by an interdisciplinary research group composed of experts from the chairs of Historic Conservation, Architectural and Urban Design and Sociology of the University of Cagliari. The goal is providing an interpretation of the phenomenon of depopulation, which could be fully aware of the complexities and values at stake and be achievable only through a multilayer gaze, i.e. capable of combining multiple perspectives. The experimentation proposed here makes use of methodologies which, starting from the 'theory of values' introduced

[1] In Sardinia, data reveal a dramatic demographic situation: of the 377 existing municipalities, 83.3% have less than 5000 inhabitants (Cocco, Fenu, Lecis Cocco-Ortu 2016, pp. 16-23). 31 of these municipalities are considered at risk of disappearing within the next sixty years (Puggioni 2016, Pp. 26- 29).

by Alois Riegl (Riegl 1903), have spread since the end of the 20th century (Fredheim 2016), and which in the specific case are applied to the study of five Sardinian villages – Su Suergiu, Santa Chiara del Tirso, Conti Vecchi, Gennamari, Pranu Sartu – currently completely deprived of their residential use (Fig. 1). Through the use of an interpretative tool inspired by value-based approaches and applied to the cases just mentioned, we intend to reflect on the potentialities and limitations of these methods in application to the protection and enhancement of historical contexts, highlighting the results obtainable in decision-making and design.

Value-based approaches. A methodological proposal - EC, AP

As just mentioned, Rieglian theories on the value of monuments and the recognition of the role of values in the definition of the cultural significance of heritage (ICOMOS 1999) have recently encouraged the scientific community to experimenting applications aimed at linking places to their meanings, in order to facilitate the definition of conscious operative choices.
The value-based approaches, developed since the end of the 20th century, represent methodological procedures aimed at recognizing, protecting and enhancing the cultural importance of heritage, understood as the overall value of heritage, or as the sum of the values that constitute it (Friedheim 2016, p. 466).
Due to their transdisciplinary nature, values represent a key to interpreting cultural heritage capable of relating characters of a different nature and integrating them into a composite and, at the same time, unique framework (Pinna 2019). Their reading and interpretation allow, for example, to define the "priorities"[2] for action in cultural systems characterized by heterogeneous elements, such as the case of abandoned villages. Data and information deriving from the application of this methodological approach on cultural heritage favour the building a transdisciplinary and cross-scale cognitive overview. In fact, value-based approaches make possible to involve branches of knowledge that deal with protection and enhancement of heritage and which are more or less similar to each other (e.g., historic conservation, archaeology and history of art, as well as urban planning, marketing and management); and it is possible to analyse different types of assets, such as archaeological finds, artworks (Ashley-Smith 1999; Appelbaum 2007), historical architectures (Orbasli 2008; Stubbs 2009) or landscapes (Stephenson 2008; van Zanthen et al. 2016).

[2] The action of choosing a specific cultural asset, in order to protect or readapt it, within a broad spectrum of other cultural objects constituting the heritage – i.e. a cultural system –, reflects the manifestation of a priority. This priority can be expressed according to a monodisciplinary or subjective vision however. The interaction between different disciplines can help to smooth over imbalances due to sector-based points of view.

Fig. 3
A view of Su Suergiu site: on the right side, the restored village, on the left the mine buildings.

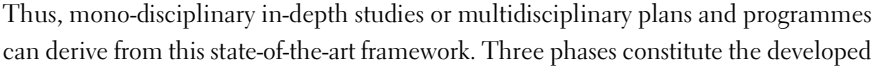

Fig. 4
Santa Chiara del Tirso, a glimpse of one of the street.

Thus, mono-disciplinary in-depth studies or multidisciplinary plans and programmes can derive from this state-of-the-art framework. Three phases constitute the developed and proposed methodological protocol: 1) knowledge; 2) interpretation; 3) project. This contribution focuses mainly on the second, based on the analysis of values.

The knowledge phase has been divided into two distinct moments: the first is based on the application of conventional methods, with the study of indirect sources (bibliography, cartography, iconography, filmography and archival documents) and with the direct analysis of places (through on-site inspections and the production of photographic documentation and surveys); the second, is aimed at collecting data relating to the intangible aspects of the investigated contexts, through the use of survey tools in the form of a structured interview with local communities.

The passage from the knowledge phase to the interpretation phase is established through the definition of the value categories associated with cultural heritage, completed by the identification of attributes and numerical indicators[3]. With specific reference to the case

[3] The 'values' express the meaning assigned to the cultural object by the investigator; the 'attributes', tangible or intangible, represent the elements or characteristics that express the cultural value; the 'indicators' describe the attributes, and must be, as far as possible, measurable (Waldemar 2015).
Specifically, here 'values' have been divided into three classes: 1. tangible value, 2. intangible value, 3. use value. Specific attributes are associated with each of them: 1.a. architectural quality, 1.b. historical significance, 1.c. state of conservation; 2.a. knowledge, 2.b. perception, 2.c. representation; 3.a. economic potential, 3.b. localization, 3.c. accessibility (Pinna 2019).

in question, the interpretative matrix converts the data relating to tangible and intangible values – the first deriving from the assessments provided by experts, the second from the answers provided to the structured interviews – which are encoded through numerical indicators in place of textual information. In operational terms, the matrix shows, for each village, the numerical indicators relating to the individual attributes[4]. The matrix, synthesizing the heterogeneous results deriving from the knowledge phase, favours an immediate comparison between them and, therefore, a systematic interpretation of the same.

The overall importance of the tangible and intangible values is obtained as the arithmetic mean of the individual attributes. They can be compared individually, but at the same time, their sum can provide information on the 'cultural value' in general terms.

In this way, the meaning of these results is twofold: on the one hand, they provide a 'static' representation of the villages, referring to the current moment; on the other hand, if we consider the value system in continuous transformation, these numerical indicators can be interpreted in a projective way, that is, they can offer indications on how to direct an enhancement

[4]The knowledge framework of cultural assets can also be previous, i.e. it is possible to convert studies of different types, that have already taken place, into numerical indicators. However, for an optimal result, it is desirable to coordinate analyses and surveys in order to have a more adequate interpretation.

Fig. 5
Conti Vecchi village. The officials' houses.

process. In other words, the interpretative framework of values thus outlined can be used to initiate the third and final phase of experimentation.
It is therefore evident that in the second phase the univocal and composite gaze, which was previously mentioned, is realized, and is able to combine the point of view of the different disciplines involved. The research group belief is that valid and effective intervention strategies could be made possible only by a broad and conscious vision.

The case study - VP

To specifically illustrate the followed procedure and the results obtained by applying the survey method illustrated above, a brief overview is provided below to outline the framework of settlements that currently characterizes Sardinia.
Here, the phenomenon of depopulation is resulting in the accentuation of the demographic gap between coastal territories and inland areas, with a subversion of the historical trends that constituted the historical territorial structure. Currently, indeed, there is an important population density in the major urban centres located near the coasts, this historically considered unsafe for the menaces coming from the sea; at the same time, the innermost areas are undergoing a dramatic 'emptying', which mainly concerns smaller towns located in contexts with a lack of infrastructures (Bachis et al. 2020; Fiorino et al. 2020).
The villages in question make up a patchwork of depopulation that is extremely variable and diversified in terms of size, typology, chronology, also modalities of triggering the

phenomena of abandonment, as well concerning the evolutions in progress. All this refers to the geomorphological heterogeneity of the region, to the historical-political complexity, to the peculiarities of the local culture and the religious traditions, but also to the economic and social dynamics and, also, to the constructive and technological knowledge. Among the abandoned places, a large part is represented by the industrial villages, whose establishment is the consequence of the start of production and exploitation of natural resources (mines, quarries, salt pans, industrial centres, hydroelectric power stations, etc.). They arose, with greater intensity in the 19th century, to accommodate managers, executive, officials and workers of the various production sites. Their closure resulted in total decommissioning of plants and the gradual abandonment of villages. Most of these are located in exceptional environmental contexts, and the absence of people and the cessation of activities – which have often altered and deeply contaminated those places – have led the 'natural' component to reown the spaces that had been taken from them. Thus, nowadays, these are suggestive places, capable of attracting the attention of visitors and enthusiasts; this condition could more easily induce the local public administrators, or private individuals, to foresee their transformation for tourist use. Obviously, these choices would have a decisive impact on the material conservation of the villages, on the one hand stopping the process of decay, but on the other hand implicating profound changes, both on the urban and architectural scale, which certainly should be carried out in a managed and aware way.

The five cases selected for testing the proposed methodological protocol are part of the category of industrial villages, built between the end of the 19th and the first half of the 20th century: Su Suergiu (Villasalto)[5], Santa Chiara del Tirso (Ula Tirso)[6], Conti Vecchi (Cagliari)[7], Gennamari (Arbus)[8] and Pranu Sartu (Buggerru)[9]. These are characterised according to the specific function of the production site to which they are connected, to the geographical location which affects the architectural peculiarities of the buildings in terms of typologies, techniques and construction materials, as well as to the degree of decay (Fig. 2-7).

As revealed in advance, the tangible and intangible values of these centres have been analysed.

[5] It was founded at the end of the 19th century, in the service of the mining site of the same name (1880-1987), and it has recently been restored and adapted in a museum.
[6] Built starting from the 1920s in order to realise the Omodeo dam (1917-1924) and to oversee the hydroeletric power station decommissioned in 1997, it reached its maximum expansion and the current urban form in the 1950s.
[7] The village was contextually built with the saltworks of the same name at the beginning of the 20th century, nowadays only the owner and managers' houses and the community services centre services remain.
[8] It grows for addition of buildings starting from the 1855, when the mine of the same name were given the concession.
[9] It arose in the 1860s, near to the sites of extraction of lead and zinc, and got definitely abandoned in the 1940s.

Fig. 6
Gennamari village. On the left the ruins of the church and the shop.

The first of them was obtained through a direct study of the five case studies, chosen so that they made up a representative picture of the heterogeneity of the industrial villages existing in Sardinia. On the basis knowledge phase results, it was possible to define the material value of each village, concerning the architectural quality, the historical significance and the state of conservation.

The architectural quality was assessed at the urban and architectural scale, in relation to the following parameters: the urban configuration, the presence of public and community spaces, the typological variety of buildings (residential buildings, but also public, monumental or representative architectures, such as religious buildings, schools, theatres, municipal buildings, etc.). The assessment of architectural quality refers to the typological, formal and technical-constructive characteristics, inspired by local, national or international cultural movements. The evaluation of the historical value is defined, however, in relation to the importance that the village has had in the territorial dynamics, but even more in the context of the national and international scene. Therefore, it turns out to be greater if the village is linked to events – historical, cultural, etc. – of considerable importance, or for its uniqueness, for its pioneering role in the industrial field or, again, as an element that characterizes the history of local communities. Finally, the state of conservation, which is a determining factor in the reflection on the priorities for intervention, is assessed on the basis of the extent of the observed damages. The degree of abandonment (total, partial, seasonal, in progress) and the speed with which this occurs, determines the arising of multiple forms of degradation. Low levels of decay substantially

imply specific manifestations of surface degradation with localized losses of historical material (partial loss of paint or plaster, deterioration of windows and doors, etc.). On the other hand, substantial and widespread collapses correspond to high levels of decay, so much so that it is impossible to recognize the architectural configuration of the individual buildings and, also, of the urban layout[10].

For the same villages, as already mentioned, the intangible value was assessed by consulting the local communities through structured interviews[11]. It was drafted in the form of a questionnaire, with questions, mainly with multiple choices. Specifically, the questionnaire was divided into three main sections: 1. knowledge (7 questions of a general nature, to assess the level of knowledge of the site)[12]; 2. perception (5 specific questions, to assess the sense of 'attachment' to the site and active participation in its protection); 3. representation (17 questions to assess the importance that the local community assigns to the site).

The interview, proposed to the local communities that live in the territory of the 5 villages investigated, had very different results for each site[13], deriving from different factors, namely the different population density of the territorial areas of reference, the location of the sites or, also, the different degree of conservation of the village.

The interpretative matrix - AP

Once the information on the villages and the community-village relationship have been collected, they were processed and transformed into homogeneous data, directly comparable. In order to do this, the experts of the various disciplines involved have codified the variables considered by associating them with a scale of values.

As regards the attributes of the tangible value, the numerical indicators are set according to an increasing evaluation scale (1 = low; 3 = medium; 5 = high). The tangible value is the result of the arithmetic sum of the evaluations of the individual attributes. The minor (5) is attributed to the villages of Santa Chiara del Tirso and Conti Vecchi; the highest in the village of Su Suergiu (11) and intermediate values to those of Gennamari and Pranu Sartu (7; 9).

The numerical indicators that define the attributes of the intangible value are set by

[10] This is the case of Pranu Sartu.

[11] Due to the Covid-19 pandemic, the interview was proposed within the local groups of the social network Facebook, in order to avoid direct contact with people. The choice criterion was based on involving the communities belonging to the *Unione dei Comuni* (local body that gathers several municipalities), where present, or those geographically close to the village.

[12] It is necessary to underline the presence of a bias dependent on the interview tool, i.e. the social network: in fact, the direct interview turns out to be the ideal method, as the visibility of Facebook posts attracts and leads to compilation mostly people who already know the village.

[13] Specifically, a greater involvement has been observed in the area of the Conti Vecchi village, while a little interest was showed by the communities close to Pranu Sartu.

Tab. 1
The interpretative matrix.

VALORE	ATTRIBUTO	VILLAGGIO				
		Su Suergiu	Santa Chiara del Tirso	Saline Contivecchi	Gennamari	Pranu Sartu
materiale	Qualità architettonica	3	5	5	3	1
	Valenza storica	3	5	5	3	3
	Grado di ruderizzazione	1	3	3	5	5
		7	13	13	11	9
immateriale	Conoscenza	3,5	3,3	2,8	2,8	3,5
	Percezione	4,3	2,9	3,4	2,5	2,1
	Rappresentazione	3,7	2,2	2,4	2,7	2,6
		11,5	8,4	8,6	8,1	8,1

associating the higher score (equivalent to 5) to the 'positive' answers, the lower score (equal to 1) to the 'negative' answers and in the case of a 'partial' answer a score equal to 3.

The resulting matrix shows a rather homogeneous situation for all the cases investigated, which can be summarized as follows: a good level of knowledge (although this, as already mentioned, can be given by a bias depending on the social network tool) and a generally negative perception and representation of the villages (Tab. 1). The one that distance itself from this trend is the village of Su Suergiu, where the adaptation of the village as a museum contributes to producing a more positive perception. Thus, the greatest value is attributed to the village of Su Suergiu (11.5), while the other four (Santa Chiara del Tirso, Saline Conti Vecchi, Gennamari and Pranu Sartu) stand on very similar intermediate values (8,4; 8,6; 8,1; 8,1).

These values can provide different interpretative keys. Since by observing the general framework they allow, for those who, for example, work in the field of architecture, to highlight the contrast between the image given by the expert and the one expressed by those who live in those places.

More specifically, however, they provide numerous ideas to support decision-making processes aimed at defining intervention strategies, especially in a systemic manner. In fact, differences in tangible or intangible value can indicate which sites should take priority over others for tangible or intangible interventions. Single values can be composed, with the appropriate calculations, in order to have an overall cultural value, useful for understanding which objects, within the system, emerge in terms of quality or role within communities. But they can also be considered individually: the material value can suggest the

physical interventions through which to act on every object, for example by recommending maintenance programs for Su Suergiu, and restorations or incisive conservation actions for Gennamari and Santa Chiara del Tirso; the intangible value, on the other hand, can favour the implementation of strategies aimed at improving the knowledge and use of these places, accompanying the direct intervention on the cultural assets with a set of actions useful for informing, educating and spreading the history of these places, to improve their knowledge, perception and representation among local communities.

This can be done intuitively, with an aware reading of numerical indices, or through a scientific approach, defining some intervals that can direct and suggest specific interventions. For the latter approach, it is possible to define value ranges to which precise design strategies correspond[14].

Design as research of unity - GBC

In conclusion, the proposed experimentation – despite its declared incompleteness – constitutes a path of action on the 'modification' of the existing heritage that searches for rational methodological approaches, from which to derive decision-making forms appropriate for the fate of the contexts. This allows the interventions to be freed from the ambitions of the individual actors, to root them in the wake of a matured conscience, which advances by questioning the landscapes in their tangible (in their physicality) and intangible (the opinions of the inhabitants) forms.

As known, in fact, the ultimate goal of design is always the search for the unity of the work, not exclusively ascribable to the form – despite its significant nature – but rather to the entirety of the path. In this sense, for example, the encounter between disciplines, as already argued by Gilles Deleuze, does not take place when one of them reflects on the other, but when one "realizes that it has to resolve on its own and with its own means a problem similar to the one that the other also poses" (Deleuze 2017, p. 29). The goal of this encounter of mutual interests, or the greater richness of such a path, lies in the common search for a 'unity' (of method).

For the disciplines of architectural and urban design, the 'interpretative' action proceeds in the 'construction' of new relationships through a conscious reading of the difference between the 'purpose' and the 'finality' of the work, that is the difference between the elements of greatest variability (the use) and those of greater permanence (the reasons for the relationship

[14] As carried out through other in press surveys, three ranges of values corresponding to 1-5, 6-10, 11-15 can be identified which, for example, for the material value can respectively suggest maintenance interventions, conservative restoration actions, or strategies for the adaptation and reuse of cultural assets.

between architectural space and context). This means that the ephemeral difference that separates the action of 'interpreting' from that of 'proposing' is crucial in the search for a possible scenario for these ancient villages.

As has been argued by several authors, architectural design does not research, but finds, and in this investigative action, the meaning attributed to the 'composition' is decisive, in all the declinations that one is able to attribute to it. The problem of adapting the meaning of these 'abandoned villages', therefore, is based on their description, in which the relationship between the parts is fundamental, not only made up of pieces of territory, but also of landscapes, highlighting the 'elective affinities' between past, present and future.

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Villages et quartiers à risque d'abandon sont aujourd'hui une problématique commune à des nombreuses régions de la Méditerranée, considérée comme un point stratégique dans les nouvelles politiques européennes. L'abandon progressif des zones internes est une constante dans les pays caractérisés par le sous-développement économique, avec les phénomènes d'émigration et de fragmentation du patrimoine culturel. Cela entraîne des problèmes d'architecture et de gestion du territoire. L'objectif principal de ce travail de recherche est de créer un espace de discussion qui comprend l'étude du patrimoine architectural et du paysage ainsi que les témoignages démo-ethno-anthropologiques.

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