



Article

Landscape, Memory, and Adverse Shocks: The 1968 Earthquake in Belice Valley (Sicily, Italy): A Case Study

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Abstract: The interaction between humans and nature dramatically reveals the role of sudden and destructive events in the progressive and never-ending trend of depletion of the territorial dimension of the Belice Valley (Valle del Belice, Sicily, Italy). If on the one hand a tragic event, such as the earthquake of 1968, that destroyed towns and villages in the Belice Valley, represented a moment of pain and suffering for local communities and their territories, on the other, more than 50 years after the event, we are able to shed light on the reaction to the earthquake effects through an indepth analysis of the heritage of the physical and immaterial rubble. Our research is aimed at framing, through special geovisual tools, the paths of this rebuilding process and to verify whether the "new" interaction of humans and nature has reached an acceptable balance. After introducing the concept of landscape and investigating some local manifestations within the Belice Valley, we tackle the technical question of re-photography as a powerful and quick method for observing the territorial changes that occurred after the earthquake. This approach is based on the collection of historical photographs and, subsequently, onsite activities for the creation of a contemporary archive of images. The method used for comparing the images was that of re-photographic overlapping, a useful technique to compare different moments of the history of a landscape and to analyze the effectiveness of the process of rebuilding. Finally, this analysis introduces us to a new perspective where in our opinion, it is possible to frame some features of the Belice Valley and some more general aspects that are useful for other territories hit by destructive events and having to face choices related to the future of their communities.

Keywords: repeat photography; re-photography; territory; landscape; visual geography; earthquake

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1. Introduction

Understanding the territorial changes that occur over time, from a geo-historical point of view and, also and above all, as a consequence of events such as seismic ones, requires the preliminary introduction of the human-nature binomial through the concepts of territory and landscape. A typical definition of territory includes reference to the presence of a subject, the person who through their actions transforms a part of a geographical space. In the field of tourism studies and the tourism market, the concept was further implemented, delegating the territory the fundamental function of retaining the signs of the history of the communities that inhabited it and of maintaining a dense network of relationships and interrelationships among the many resources that distinguish it.

The landscape is the image of the territory, its visual rendering. According to several authors, the landscape is the union of the sensorial aspects of a place, both physical and human, falling under the direct observation of an individual, and constitutes the concrete synthesis of all those factors that led to the use of space by humans, according to a wide variety of responses to environmental opportunities [1,2]. The different ways of

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responding to environmental opportunities and adversities have molded the use and design of the territory to take on various types of landscape, for example the great variability of the most "frequent" forms of agricultural or urban landscapes, thus defining the new «croûte technique à la surface du globe» (agglomerated crust on the Earth's surface) [3] constituted by the human superstructure of production of goods for subsistence and living, vital functions for humans. Going beyond the basic functions of human beings, landscape evolution is enriched with elaborative interventions by humans; still, the natural component will always be present, to a varying degree, to signify its inseparable role in human life itself. From these "combined works of nature and of man" [4], the concept of cultural landscape is derived. The "culture" variable is therefore added to the landscape forms, meaning that the landscape is enriched by the vision of the individual or of the communities.

If culture is a landscape variable, the cultural landscape is the staging of the culture of the individual or of the community where a certain common degree of culture is recognized and shared. As Sauer [5] writes, later reiterated by Vallega [6], "the cultural landscape is fashioned out of a natural landscape by a culture group. Culture is the agent, the natural area is the medium, the cultural landscape the result". The result, namely the staging of the territorial schedule, is a cultural action based simplistically on the combination of humans and nature. If humans build their cities and plow their fields, they do it following their own cultural, material, and immaterial pattern. The "sensible experience" of Hellpach [7] is probably strategic since it inserts the action of looking (the landscape of others), aesthetically connoting the experience and, consequently, inserting observers/users of the landscape into the equation and, therefore, a potential market. However, who chooses what to stage? Which and how many cultures, hegemons and subordinates operate in the same spaces as in the case of agricultural ones? Luginbühl [8] and Donadieu [9] attempt to answer this question and agree on the complexity of its vision and its components. This complexity arises from the choice, along paths of economic enhancement of the strengths of a territory, of some products over others according to "the landscapes to be exhibited". The selection of landscape images over others "induces inevitable transformations in the social composition of those who live in that area induced by the increase in property income", and when this happens in an unbalanced way, we could have the phenomenon of rural gentrification [10]. Consequently, each territory will have its own territorial configuration characterized, in broad terms, by objective as well as political and socio-economic aspects. The former comprise the different natural conditions and specific characteristics that derive from socio-economic and cultural choices and events inherited from the past. The latter includes aspects linked to the current territorial organization, dependent on elaborative choices of the territory still in progress or recently concluded and therefore still modifiable, in whole or in part. The human-nature binomial referred to also includes the "nature" component as an essential component of human action, but also as an autonomous agent, often in contrast with the human project, to the point of devastating it both in a material and immaterial sense. Therefore, nature is an agent, but also a medium and a result. This is the case of the earthquake in the Belice Valley in 1968. It is certainly a natural phenomenon which by manifesting itself, has changed the actions of humans. The earthquake deprived the valley of its territorial specificity. The reconstruction has transformed the natural event into a social event as well, and this led to an identity crisis. The collective action, often multidirectional, uncoordinated, and frequently late, produced cultural landscapes that are difficult to interpret. The re-writing the spaces made by humans has produced deep wounds, some of which are more devastating than the natural event that caused them, due to the decisions taken and the prolonged duration of recovery.

One of the ways to observe these changes is through the cultural stimuli that come from the free forms of art or the more or less codified ones of science [11,12]. It is in cataloging catastrophic events such as this and their aftermath that the re-photographic exercise proposed here finds its perfect application, i.e., an attempt to tell the ways of inhabiting the territory even when nature poses sudden, devastating obstacles, completely disinterested to human projects.

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More than 50 years later it may be difficult to identify the original pattern of territorial action. Thanks to the photographic archive of the newspaper L'Ora (acquired by the Sicilian Region and kept at the Sicilian Regional Library "Alberto Bombace" in Palermo) and observation in the field, we contribute to the debate on the conservation of the memory of places and possible perspectives, creating an intermediate "photograph" that preserves what has not yet been lost. The final product of the re-photographic practice becomes the 'witness' to be passed on to the local communities in order to recover their identity through bottom-up participation tools such as the establishment of ecomuseums, one of the most successful forms of "staging" the heritage that cannot be contained within traditional museums except in dematerialized form. Re-photography, therefore, will be used here as a medium for reading the changes in the territory also by those who, despite living in those places, do not know their genesis.

2. Study Area

2.1. The Belice Valley

The Belice Valley is located in the western part of Sicily, shared between the territories of the three former provinces of Palermo, Trapani, and Agrigento. It is a predominantly hilly area and coincides broadly with the hydrographic basin of the Belice River, which covers an area of almost a thousand square kilometers; the 94 km long river course (the 5th longest river in Sicily) originates in the municipality of Poggioreale at the confluence of the Belice Sinistro and Belice Destro (Figure 1). The valley is geographically divided into an "upper" and "lower" valley; there are 23 municipalities whose territory is partly or totally attributable to the river basin, almost all characterized by a small surface and low population density. Table 1 shows the demographic evolution of the most severely damaged municipalities by the earthquake, on the basis of the Mercalli scale (between VIII and X).

The main economic resource is agro-food production and the cultivation of the olive tree followed by the cultivation of the vine. Among the other crops making up the landscape mosaic, it is worth mentioning the yellow melon which was recently rediscovered and promoted through festivals.

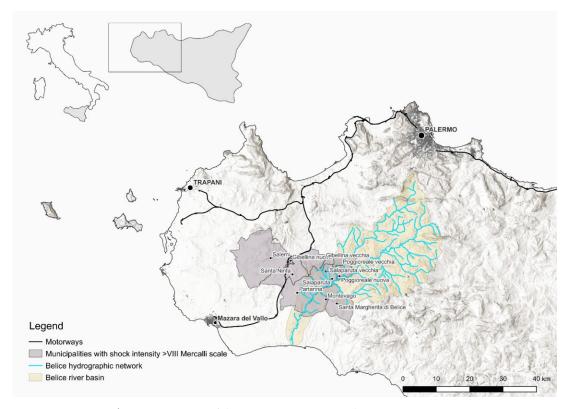


Figure 1. Framing of the area. Source: ISTAT data.

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Salaparuta

Salemi

Santa Margherita di Belìce

Santa Ninfa

Vita

Camporeale

Contessa Entellina

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Cities/Years	1861	1911	1961	2011	2020
Gibellina	5419	6646	6410	4264	3836
Montevago	3122	3113	3008	3015	2734
Partanna	12,012	16,174	13,011	10,854	10021
Poggioreale	3338	3074	2698	1534	1394

20,549

15,364

10,871

10,114

13,035

Table 1. Demographic evolution of the municipalities most affected by the earthquake. Source: ISTAT Population Census.

The landscape of the Belice Valley tells many things and, among these, the slow process of de-territorialization as an effect of the depopulation. However, to think that it was the 1968 earthquake that triggered the population exodus is a mistake; according to some initial observations, it is possible to discern the dynamics against the trend of what we have always believed that they were the dynamics of "crisis" increasingly originating in the absence of specific services and attractiveness in the work sector and in the use and "spending" of free time.

Two tragic "big events", such as the two world wars, had already affected the Italian territory, causing a significant loss of population. The Italian industrial golden age (1958–1963) continued the depletion of the population and investments toward other areas of the country, consequently subtracting vitality, both in the narrow and broader sense of the term, from less interesting areas and geographically more distant from the economic centers of Italy. Already before the 1968 earthquake, depopulation in the region was well underway (Figure 2). In any case, the focus of this work is on the effects of the 1968 earthquake on the Belice Valley, although the depopulation process started in the beginning of the 20th century (and that can be extended to many other areas of Sicily) and deserves its own specific analysis.

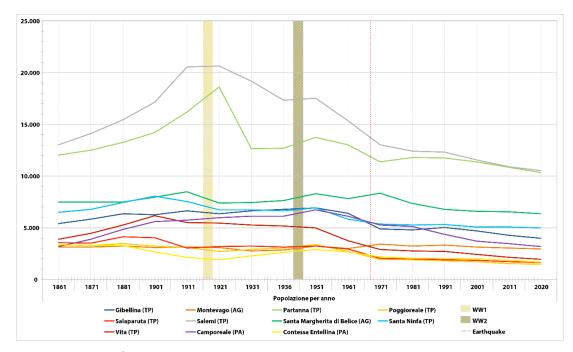


Figure 2. Population trends and relationships with major historical events (1861–2020). Source: ISTAT data.

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From a geological point of view, the Belice Valley area in SW Sicily represents the westernmost part of the Sicilian Fold and Thrust Belt (hereafter, SFTB, Figure 3A), a southverging contractional belt segment of the wider Appennine-Maghrebian orogenic system, the suture zone between the colliding Africa and European plates [13,14]. The SFTB is the result of the Neogene-Quaternary tectonic processes during which a pre-orogenic configuration (formed at that time by both platform and open-shelf rock series, i.e., the African continental paleo-margin) has been progressively shortened to form a wide thrusting system. The westernmost segment of the SFTB (i.e., the studied area), consists of NE-SW trending structural domains composed of several, thrust-bounded, foreland-verging tectonic blocks (Figure 3B) at present interposed between two extensional domains, the Tyrrhenian Basin to the north and the stretched Sicily channel region to the south (Figure 3A). Deep seismic explorations in the area [15,16], revealed the structural architecture of SW Sicily as formed by two overlapping thrust wedges separated by a regional decollement. Accordingly, the seismotectonic processes that involve this region appear to be related to ongoing compressional activity along deep-seated, high-angle thrust contacts that at a shallower crustal level, display flat-ramp geometries of deformation.

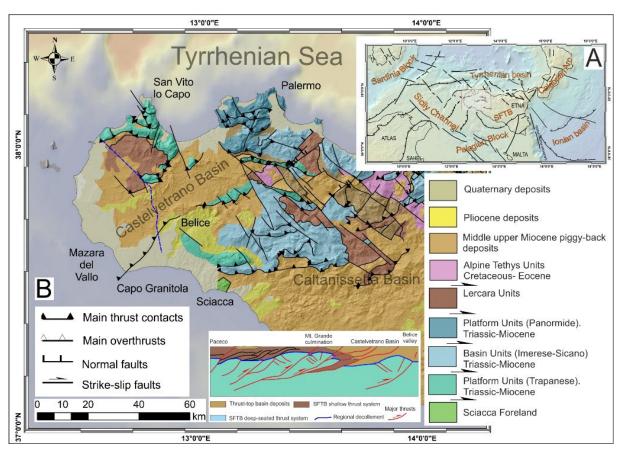


Figure 3. (A) Tectonic model of the Central Mediterranean region where SFTB occur. Lines represent the main faults. Lines with triangles represent the main contractional tectonic features. (B) Geological sketch map of central western Sicily (from Finetti et al., [17] modified) showing the main tectonic units and contacts, the latter consisting mostly of thrust and strike-slip faults. From Barreca et al., [18], modified.

2.2. The 1968 Earthquake

At 2.01.09 (GMT) on 15 January 1968, a wide area of western Sicily was hit by a 6.41 Mw earthquake [19–23], the main shock of a high frequency seismic swarm (more than 300 events) that shook the region for almost a month (from 14th to 25th January 1968) (Figure 4). The disastrous event, the strongest seismic event recorded in Western Sicily in historical time, was preceded by a series of minor events (on 14 January with 4.84 < Mw <

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5.1) and followed by several aftershocks. Among these, the events on the 16 and 25 January reached the magnitude of 5.45 and 5.37, respectively [19–24]. The seismic event caused about 370 deaths and severe damage to 14 villages facing the Belice River valley. Four of these (Gibellina, Poggioreale, Salaparuta and Montevago—see Figure 1) were completely destroyed (Figures 5 and 6). Ground effects related to the 1968 earthquakes were generally scarce and occurred mainly at the northern limb of Belice syncline and consisted of moderate landslides, mud upraising along fractures and escape of fluids [25,26]. Sand blows and fissures related to liquefaction phenomena were observed along the Belice River alluvial plain [27].

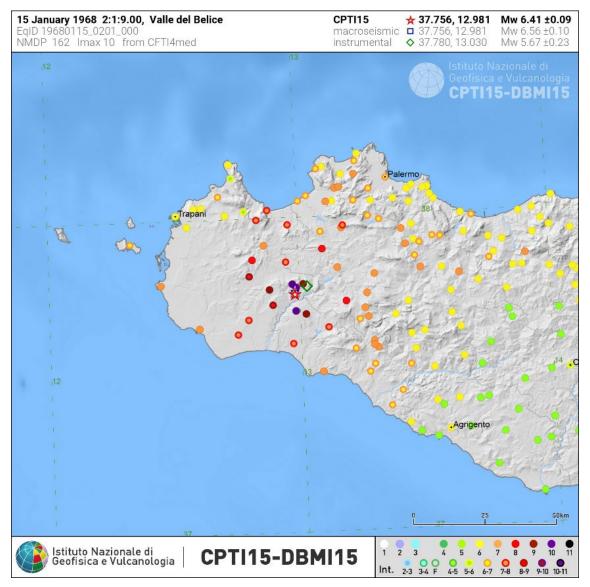


Figure 4. Seismic intensity map of 15 January 1968 Belice earthquake from INGV CPTI (Catalogo Parametrico dei Terremoti Italiani) ver. 4.0 [21–23].

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Figure 5. Montevago after the earthquake. Photo: Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo.



Figure 6. Intervention of the early volunteers. Photo: Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo.

2.3. The Belice Valley after the Earthquake

A completely new dynamic affected the entire Belice Valley after the earthquake: the stark reality of the destruction of entire urban settlements followed by the top-down rewriting of future local identities, which accelerated the processes of de-territorialization [28]. The ties between large sections of the population, who chose to look elsewhere for better living conditions, were severed from their territory, so to speak. The strategy of the government bodies in the wake of the earthquake seemed to facilitate the population decrease in the Belice Valley as if less population would equal less expenditure of economic resources in the reconstruction and support of local populations (Figures 7 and 8).

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Figure 7. "Flying" ticket offices of the FF. SS. (Italian railway company), 22 January 1969; free train tickets were available for the entire population of the Belice Valley for every destination. Photo: Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo.



Figure 8. Refugee departures from Palermo station, 27 January 1968. Photo: Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo.

Among other things, the earthquake led to the foundation of new cities, such as the "new" Gibellina (about 10 km from the original site and rebuilt in a part of the village of Salemi territory), the "new" Poggioreale (3 km away from the original site) and the "new" Salaparuta (also 3 km away from the original site), to which it is possible to add Montevago. The choice of building new settlements rather than directly intervening in damaged buildings has distant and complex roots. First of all, following the earthquake of 1693, it was preferred to relocate the most affected centers; the city of Noto was thus moved downstream from the original position for better accessing the site and to reduce

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risk factors. Similarly, without neglecting the possible presence of less legitimate interests, in the case of reconstruction in the Belice Valley, the first legislative interventions suggested proceeding rapidly with the demolitions and with the abandonment of areas considered geologically unhealthy [29], identifying the most suitable areas further downstream. However, the de-localized reconstructions mark and add further wounds to those not yet or not at all healed as a result of the earthquake.

For each of them it is possible to carry out the complicated task of evaluating the results ex-post in social, economic, and environmental terms. What happened since 1970, the year of the refoundation of Gibellina starting with the construction of the Chiesa Madre (Figure 9), can be read in history books, a history of errors but also that of farsightedness: it is hard to forget the town planning variations that, from 1979 to 1996, were necessary to overcome planning errors [30]. At the same time, it is important to point out the "vision" of Ludovico Corrao (mayor from 1970 to 1994) of a city of art, a city that would have risen thanks to the "gift" of an impressive number of land art interventions that have delivered a city tailored to social networks or, in modern terms, was "instagrammable".



Figure 9. Chiesa Madre, Gibellina, project by Ludovico Quaroni (1970). Photo by the authors, Gibellina 2020.

Instead, what happened in Poggioreale and Salaparuta is something different. If we remove Corrao's vision from the history of Gibellina, perhaps we have summarized what really happened in these two most unfortunate centers. The alienating architectures still present in both municipalities remind us of impressive investments of money on pharaonic structures, as in the case of the square of Poggioreale (Figure 10), or the urban center with no identity of Salaparuta (Figure 11) of which only a direct, personal, and immersive experience can enable us to understand.

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Figure 10. Piazza Elimo, Poggioreale nuova, project by Paolo Portoghesi (1988). Photo by the authors, Poggioreale Nuova 2020.



Figure 11. Salaparuta city center. The "new" Chiesa Madre is visible in the background. Photo by the authors, Salaparuta 2020.

From a cultural point of view, the "modern" Belice Valley took its first steps in the 1980s. For this reason, we must go back to the new Gibellina which had already taken shape and in which the primary infrastructure works, carried out first, definitively

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realized the drawing developed by the technicians of the Institute for the Development of Social Housing (ISES) [30].

As the cultural excitement around the figure of the sociologist Danilo Dolci waned, after he had animated the hearts and minds of the inhabitants of Belice long before the earthquake, accompanying them in the struggles for agrarian reform and for a solution to long-standing water problems, Gibellina was to become the catalyst center of a cultural and creative turn, forerunner of the attractive use of art and culture and for a long time incomprehensible to the inhabitants themselves. To guide the cultural turn, first of Gibellina and of the Valley immediately afterwards, was Ludovico Corrao, another leading figure in the area, who continued change and, to the present day, provided us with a path of re-territorialization that is not yet fully accomplished but which places Gibellina in both art history as well as in history books. What the mayor Corrao argued was that the reconstruction should also have gone through new identity processes and liberation from welfare logics; to do this it was necessary to lay the foundations of a local development capable of culturally and economically rooting what would have been the new settlement [31]. Corrao's new (territorial) identity was a mix of essential services and works of art, the latter with the dual function of making beautiful what could usually be considered "urban" and serving as an attractor of new economies, such as tourism. While the city of Gibellina was enriched, thanks to imposing urban plans and with the help of great artists, Corrao called upon Alberto Burri to intervene on the ruins of the original site; thus, between 1984 and 1985, the Cretto was created, one of the most important site-specific land art works in the world which by pouring concrete, incorporated the rubble of the old Gibellina, replicating its structure and urban layout. The Cretto and the new Gibellina (Figure 12) created the metaphorical container, both inside and outside the city, for Ludovico Corrao to fill. Overcoming local criticisms and dislike, he created the first season of the Orestiadi in 1981, an international festival of arts that year after year, for 40 seasons, brought world-class personalities to perform in bagli 1, squares and amphitheaters in the new Gibellina and the Cretto. The scale of the event has extended in time and space, even outside the city limits, stimulating the hospitality industry in the towns of the Valley.



Figure 12. Sistema delle Piazze, Gibellina, project by Franco Purini and Laura Thermes (1990). Photo by the authors, Gibellina 2020.

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3. Methodology

The practice of re-photography, widely used in geographical, geological, anthropological, and natural science studies, is useful to compare the changes in any type of land-scape over time. If this practice came about with photography itself, its consolidation as an analysis technique began in the early 1980s with Rogers' research on the use of document comparison through photographic techniques [32,33]. From that moment on, thanks also to the introduction, diffusion, and ever-increasing quality of digital cameras, the adoption of the photographic technique took place with increasing frequency, leading to the enrichment of methodologies and fields of use.

At the time of its introduction, photography replaced painting in the role of documenting data, amplifying the skills of the modern scholar, the evolution of the 'typographic man', through the descriptive potential of the image and transforming it into a 'graphic man' [34]. While painting shifts its field of application to the representation of inner worlds and creative processes, photography (still) seems the perfect tool to faithfully reproduce reality, so the documentary spirit immediately supports the development of the technique. This desire to document includes war reports by Roger Fenton (Crimean War, 1854–56) or Matthew Brady (American Civil War, 1861–65), for example, but also photographic surveys for the construction of large infrastructures, as in the case of the Central Pacific railway line (Sacramento-Odgen, 1861–85) whose realization was documented by Alfred A. Hart, or the later photographic campaigns (1935–44) promoted by the American Farm Security Administration to understand and contrast effects of the Great Depression and worked on by great photographers such as Walker Evans and Dorothea Lange, among others.

Re-Photography as a Territorial Documentation Technique

The first application of re-photography as a scientific instrument is an evolution of photogrammetry, and is attributed to the German glaciologist Sebastian Finsterwalder who, at the end the nineteenth century, conducted a photogrammetric analysis of the Tyrolean Alps [35]. The comparison between images taken after a year at photographic stations that remained in the same position allowed him to observe the transformation of the glaciers. Later, the technique was adopted to detect geomorphological modifications of places of naturalistic, cultural, and/or tourist interest [36], to set up ecological surveys of natural habitats [37], to detect changes in the landscape and urban settlements [38,39], up to the first major projects financed by public and private institutions, such as the Carnegie Institution of Washington, which allowed the collection over time of a very consistent corpus of images [40] (see, for example, the collection of the Desert Laboratory, founded in 1903, now part of the University of Arizona and active with dozens of projects in progress) ².

Beyond the technique and its rigorous use in the scientific and statistical field, the comparison of images of the same subject over time has subsequently taken on a cultural value through the approach of a group of photographers, mostly Americans, who renewed the genre of landscape photography. In the mid-seventies, in fact, there were two important experiences for the change in pace in landscape photography: on the one hand the publication of "The New West, Landscapes Along the Colorado Front Range" (1974) by Robert Adams [41], on the other, the organization in New York of the exhibition "New Topographics" (1975) [42] with the participation of a large number of photographers. The American landscape of the first half of the century, for example the one shown through Ansel Adams' copious body of work, is thus revised and deromanticized, made more real and less idealized by directing the gaze, and the shots, toward what might not necessarily be positive changes in the American territory: urban expansion, infrastructure, and decay—all changes due to human action and inaction [43]. From then on, the cultural approach to the photographic technique developed in Mark Klett's work ³, to which is due, among other things, the adoption of the *re-photography* contraction rather than *repeat*

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photography, in the French Mission DATAR ⁴ or in the work of Camilo Jose Vergara ⁵, among others.

The photographic technique is today enriched with digital capture and display systems that amplify the possibilities of image production and comparison, accelerating all research and subsequent analysis phases. Then there are also all those devices (satellites, drones) and software (GIS, Google Earth) that allow previously impossible points of view. As mentioned, the use of photography has allowed, since the end of the nineteenth century, the comparison of different types of landscape and, today more than ever, it appears to be a very useful tool to verify the state of the environment and the resilient capacity of areas, for example those affected by disasters (earthquakes, fires or hydrogeological disasters).

More than 50 years after the earthquake in the Belice Valley and starting from the rich archive of the newspaper L'Ora 6, now acquired by the Sicilian Regional Library "Alberto Bombace" of Palermo, we had the opportunity to observe the images taken in the villages of the Valley immediately after the earthquake and in the following months and years; a few images from the Archive made before 1968 (i.e., Figures 16 and 19), some of which are in color, are an exception. The places devastated by the shocks and documented by the many photographic reports were, by default, already fragile places due to the absence of schools, hospitals, hospices, and roads, due to family diasporas caused by emigration and persistent poverty [44]. Among the many images, we chose to focus on those of the hardest hit places, i.e., those where the force of the earthquake had made itself felt the most: Gibellina, Poggioreale, Salaparuta, Montevago, Santa Margherita di Belìce, Partanna, Santa Ninfa, and Salemi. Before physically going to the Valley, we therefore carefully studied the images and information in our possession to prepare an itinerary along pre-established stages, identifying in the images the fiducial markers to look for through geographic internet services such as Google Maps, Open-StreetMap and Google Earth (Figure 13). The photographic campaign was carried out in the same period of the year in which the earthquake occurred (January 1968–January 2020), searching for the places where the selected photos were taken. Among these, in addition to those of the damaged centers, there were many images of the sites where the emergency shelters had been prepared, namely the tent villages and, later, the barrack camps 7, destined to remain as signs of a never-ending emergency. In this way, we started from the most easily traceable places due to the presence of buildings or recognizable elements, then identified the less immediate locations, thanks to the intersection of data and profiles of the landscape (Figures 14 and 15).



Figure 13. Selected locations and itinerary. Source: our elaboration on Google base map.

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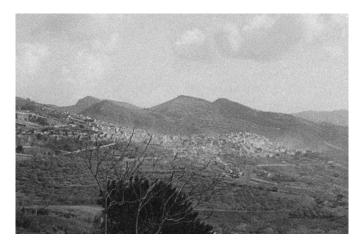


Figure 14. Old Gibellina destroyed by the earthquake. Photo: Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo. Photo by the authors, Gibellina 2020.



Figure 15. Cretto, project by Alberto Burri (1984–89, completed in 2015). Photo by the authors, Gibellina 2020.

4. Results: The Application of the Re-Photographic Method in the Belice Valley

The center of Gibellina, seen from Provincial Road 5 Gibellina-Salaparuta in the aftermath of the earthquake, appears as a dusty pile of rubble distributed along the ridge between two small hills (Figure 14). The comparison with the contemporary image partially restores the feeling one has when visiting the places of the old center 8: Alberto Burri's artistic intervention, visible from a great distance, is a large funeral shroud that covers most of the site, holding the ruins of the destroyed buildings under it; it is a veil that does not erase the wound but provides dignity, incorporating the object and the place in a work of art that remains there and continues to confront the landscape and communities, representing "the deep structure of the relation between human and space" [45] (Figure 15).

What has changed? The place, previously alive and vital, has remained frozen in a moment of half a century ago; the roads have remained unchanged; the same applies to the profiles of the mountains on the horizon, with the exception of the natural landscape that has continued to live and has taken over its spaces. The "Gibellinesi" (inhabitants of Gibellina) were re-located about 10 km away, within "an immoderate, obstinately euphoric reconstruction project" [46] (Recalcati, 2018) that seems to have almost been created specifically for the social approach of contemporary photography.

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Referring to the reinterpretation of the landscape proposed by Klett, Vergara, and others, the approach we adopted intended to propose not only a combination but also an image processing. In particular, through the overlapping of archive and contemporary images, we obtained photographic palimpsests that contribute to the narration of a story of a place and a community, of an event, of conditions of continuity or discontinuity between two moments [47]. Past and present coexist starting from elements that have survived changes due to nature and man but, by adopting Munteán's vision which implies Benjamin's theory of ruin 9 as an allegory of history, the contemporary image has almost a cathartic function since it "unlocks the optical unconscious and pours its contents back into the landscape", while the historical image becomes an allegory of transience and defeat, depending on whether you see it from a natural or artificial point of view [47]. In this sense, among Mark Klett's projects, After the Ruins 10 is particularly interesting since it combines the images of San Francisco taken immediately after the 1906 earthquake and those re-photographed a hundred years later, allowing precise reflections on the sense of fragility and temporariness and, as one would say today, of the resilience of places [48]. In Figure 16, for example, two images of Santa Margherita di Belice: some pieces of an ancient color photo of the current Piazza Matteotti, prior to 1968, are superimposed on a contemporary image. The re-photographed buildings are Palazzo Filangeri Cutò (on the left) and the former Chiesa Madre (on the right), today headquarters of the Municipality and of the Gattopardo Museum in the first case, of the Museum of Memory in the second. The first structure has undergone very few changes, while some parts of the second have been 'saved', mainly visible inside the current museum; the rest was instead rebuilt while maintaining a volume that allows, even in this case, to remember the original religious building. Additionally, in this case, at the moment of our photographic survey, the town seemed almost uninhabited and the only figures that populate the image are those present in the photograph of the past. Because of the depopulation of the Valley, the places are now in fact oversized compared to the real people living there.

Figure 17 overlaps a historical image of some men waiting in front of the municipal offices located inside the barracks of the Salaparuta Village, along Provincial Road 5, and the current photovoltaic panels installed on the concrete platforms that once served as a base for the same barracks. On the ground are still traces of makeshift paving used to limit the dustiness of the walkable sections, while the hills in the background repeat the shapes and vegetation exactly, as if not a minute had passed. Likewise, there seems to have been no time lag between the overlapping images in Figures 18–20: in the background are the color photographs taken during our survey, to which we added the black and white images preserved in the archive of L'Ora. In Figure 18, after 35 years the rubble of Montevago still remained and, in the meantime, the inhabited center was moved slightly, preferring to abandon the buildings and leaving them as an open wound; we see other ruins in Figure 19, with the superimposition of a moment of daily life in Santa Margherita di Belice prior to 1968. Instead, in Figure 20, the reconstruction introduces new forms in the recovered center of Santa Ninfa.

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Figure 16. Re-photographic overlap between Cathedral and Palazzo Cutò (Photo: Maggio for L'Ora, Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo) and Piazza Giacomo Matteotti (Photo by the authors, Santa Margherita di Belìce 2020).



Figure 17. Villaggio Salaparuta, people at the temporary barrack camp town hall (Photo: Scafidi for L'Ora, Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo) and photovoltaic system in the Salaparuta area (Photo by the authors, Salaparuta 2020).

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Figure 18. Montevago, 14 January 1985 (Photo: Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo) and Ruins of the Chiesa Madre (Photo by the authors, Montevago 2020).



Figure 19. Santa Margherita di Belìce (Photo: Scafidi for L'Ora, Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo) and Ruins of the Chiesa Madre (Photo by the authors, Montevago 2020).

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Figure 20. Santa Ninfa. Mayor Bellafiore in front of the Casa del Popolo under construction (Photo: Archivio de L'Ora, Biblioteca Regionale Siciliana "Alberto Bombace", Palermo) and Casa del Popolo (Photo by the authors, Santa Ninfa 2022).

5. Discussion: Digital Territories and Geographical Readings

The digital transformation of the territory, through photography, was necessary for the diachronicity of the events to be compared: year zero, that of the 1968 earthquake, from which we drew from a large photographic archive, and the field work from the 2020 re-photographic campaign to detect the most recent territorial configuration. Among all the photographic material of the past, a selection was made of the documentation concerning the municipalities most affected by the earthquake. Some photographs were then selected that had specific and useful characteristics for research, i.e., well-identified and recognizable landscape elements, such as reference points still intact or naturalistic details that have remained almost unchanged, considering at least two types of problems: time, more than fifty years having passed, and the event, i.e., the earthquake, a particularly active action in changing the order of things.

The results of our analysis left us perplexed. On the one hand, we observed mechanisms of economic recovery essentially linked to the oenological sector, and timid, although lasting, attempts to build a territorial cultural armor, even if limited to some areas; however, the most important consideration is linked to a certain sense of "emptiness". Empty cities, regardless of the reconstruction paths undertaken, abandoned or museified ruins, empty countryside or with little crop variability, some wind farms and some photovoltaic systems, but overall we could say an empty territory. More than one question arises about the fate of the Belice Valley. The re-photographic exercise completed here, more than advancing new hypotheses about the changes underway and the future of the area, allows us to make brief reflections that corroborate what can still be deduced through direct observation. A wider re-photographic plan over time, as also hoped for by Klett [48] regarding his project on San Francisco, would certainly allow an accurate reading of the territorial and cultural processes, while although these 50 years have been interminable for the local communities, they are probably too short a period of time to be able to read the changes in a territory that seems to have remained "frozen".

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Re-photography has often been used in geomorphological [35–39] or sociological [43,48,49] investigations. The availability of digital technologies has now naturally spread the practice of re-photography, both for the part concerning the initial research and for that linked to the production of images (immediate verification of the results) and to the post-production (overlapping and processing). However, if today re-photographic projects are ever more numerous, including those linked to seismic events ¹¹, these are mainly based on the layout and on the platforms that enable an interactive comparison of the images. The limits of this visual approach, therefore also of this work, could be linked to the ability of photography, and of re-photography, to detect qualitative changes but limit quantitative ones, unless a rigid analytical practice has been followed in all phases [50]; at the same time, it is a tool that allows an effective narrative restitution of physical and social phenomena [49].

All the studies done so far, including our contribution, suggest museifying what remains (the ruins), or even better ecomuseifying ¹², i.e., making them available to the affected communities, so that they can participate with and contribute in their strengthening, protection and enhancement. In fact, starting from the assumption that treating the territory, the community, and the heritage individually is not useful, then only through the practices of active citizenship and considering the heritage as a common resource, can it be said that the territory as a whole coincides with the community itself, with its own history and culture—a history and culture also shaped by adverse shocks, such as an earthquake and a pandemic, to which one can succumb or react, but whose memory must also be preserved as a performative instrument [51].

6. Conclusions

From a cultural point of view, the "modern" Belice Valley took its first steps in the 1980s. From an economic viewpoint, it is possible to trace a timid rebirth in the 1990s with the extension of viticulture and the birth of cooperative wineries that received an impulse for their development from the earthquake itself; the two aspects would finally meet only a few years later. Despite these steps, even if diluted over time, the problem of "delay in development" still seems present. More than fifty years have passed since the earthquake devastated the area, but the socio-economic delay of large parts of this territory is still evident. The persistent depopulation trends accentuate the sense of "emptiness", as if to underline the useless, if not damaging, top-down reconstruction path carried out with various economic and political interventions.

The 'museification' of part of the ruins or the construction of de-historicized "villages" has not led to much more than some visits by tourists or land art enthusiasts. The experience of viticulture is important but most likely it will not be enough to draw new economic and cultural trajectories capable of changing the fate of the Valley. From the cultural point of view, the last two editions of the Orestiadi, despite the pandemic, which constitutes another adverse shock, would suggest that a part of the territory wants to live, produce, and stand out.

In this case, the re-photography shows first of all the inhomogeneity of the interventions carried out ¹³: on the one hand the unique case of Gibellina (which coincides with Ludovico Corrao's vision) of a "civic art factory" [52], of a place in the making that also confronts "the eventual decline of the great interpretative plots of modernity" [53]; on the other, a series of similar (but far less successful) attempts to create new centers, built starting from precise urban planning and safety provisions, but which remained mostly anonymous. In addition, the abandonment of the ruins has frozen the landscape of the past, perhaps leaving it as a warning, perhaps as a sign of the inability to take care of it, thus leaving nature the task of erasing them completely. In this sense, the re-photographic approach can help to preserve and re-propose an archaeology of post-seismic phenomenology through a comparison that allows us to observe the changes (or the perpetration) of a status; in this way, memory could be preserved, showing the signs still visible on the

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territory, in line with the conservation objectives of the historical, cultural and landscape heritage of the ecomuseum networks.

Finally, another aspect that must be considered is the possibility to use re-photography as a tool to improve risk perception and resilience. In the Belice Valley, up to the 1968 earthquake, a low estimated seismic risk induced no earthquake disaster mitigation measures and no disaster management. From this point of view, the immediate impact of images where the effects of an earthquake are superimposed on old urban or natural environments could be usefully used in schools and public offices to enhance the communities' earthquake risk perception and resilience. Additionally, the results of the re-photography can be integrated in earthquake vulnerability assessments that help identify the most vulnerable areas of the Valley, based on past damage. These kinds of evaluations are the first steps toward understanding the seismic risk in Belice Valley, and to elaborate and subsequently implement risk mitigation strategies.

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Notes

- 1. Bagli are buildings built around an open space, a kind of courtyard.
- https://tumamoc.arizona.edu/active-research-projects (accessed on 6 July 2020).
- 3. http://www.markklettphotography.com/rephotographic-survey-project (accessed on 20 July 2020).
- 4. https://missionphotodatar.cget.gouv.fr/mission (accessed on 14 July 2020).
- https://camilojosevergara.com/About-This-Project/1/ (accessed on 1 March 2022).
- 6. L'Ora was an important news and investigation newspaper, published in Palermo from 1900 to 1992.
- Baraccopoli Rampinzeri, Baraccopoli Madonna delle Grazie, Baraccopoli di Salaparuta, Baraccopoli Santa Lucia, Baraccopoli Montevago, Baraccopoli Giammuzzello.
- 8. Gibellina Nuova (the new Gibellina) was rebuilt 10–15 km away, in the territory of the municipality of Salemi.
- Munteán refers to the post-doctoral essay "The Origin of German Tragic Drama" (1928), in which Walter Benjamin recognizes an allegory of history in the shape of the ruins: «The allegorical physiognomy of the nature-history, which is put on stage in the Trauerspiel, is present in reality in the form of the ruin. In the ruin history has physically merged into the setting. And in this

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guise history does not assume the form of the process of an eternal life so much as that of irresistible decay. Allegory thereby declares itself to be beyond beauty. Allegories are, in the realm of thoughts, what ruins are in the realm of things».

- http://www.markklettphotography.com/after-the-ruins/nmcvfola2oh4900n9txo8j622fxq5s (accessed on 15 July 2020).
- See, for example, Shawn Clover's projects based on the earthquakes in San Francisco (1906) and Loma Prieta (1989) (https://shawnclover.com/thenandnowmashups, accessed on 23 April 2022), or Igor Baloh Parin's combinations of images of the Slovenian city of Breginj, before and after the 1976 Friuli earthquake (https://www.re.photos/en/profile/Parin/, accessed on 23 April 2022).
- "The ecomuseum is a participatory practice of enhancing the tangible and intangible cultural heritage, elaborated and developed by the local community also through an entity organized in the perspective of sustainable development", Carta di Catania, 2007.
- ^{13.} The images shown here are part of a larger group of re-photographic elaborations.

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