

Dilemma: landscape requalification or low-growing vineyards conservation? The case study of Tramonti (Liguria, Italy)

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1. *Introduction*

Tramonti (La Spezia) is morphologically the promontory connection between the landscape system of Porto Venere and the adjacent islands and the Cinque Terre, and together constitute a unique landscape area that in 1997 was declared a UNESCO World Heritage Site, because it is considered «an area of exceptional cultural value, which shows the harmonious relationship between man and nature» (Id n. 826 1997 C).

The area is also part of the National Park of the Cinque Terre, the Regional Natural Park of Porto Venere and SIC-Riomaggiore to Porto Venere (Burlando, 2009). The Cinque Terre National Park was established in 1999 in order to facilitate the maintenance and recovery of agricultural activity with the creation of new jobs. On the other hand some of the objectives of the Plan of the Regional Natural Park of Porto Venere are the protection of the natural environment, geomorphological, biological, landscape and historical-cultural values; the promotion of natural and cultural knowledge of the uniqueness of the area and public enjoyment in ways compatible with its geomorphological conservation (*ibidem*).

Tramonti should preserve not only the endemic species typical of the place, but also the natural habitats highly vulnerable due to the presence of non-native vegetation that promotes frequent fires. The territory as a whole can be described as a cultural landscape (*ibidem*).

2. *Historical and geographical evolution of the landscape of the Cinque Terre*

In general it seems (Storti, 2005) that the transformation from natural to artificial terraces began around 1000 by people from the Val di Vara of massive deforestation of land and construction of terraces supported by dry stone walls until around 1300, only to be completed in the following centuries.

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Of investigations and surveys carried out on the ground and from the reading of aerial photographs it was possible to date assessment of approximately 2,000 hectares of the areas affected by the construction of the terraces on the part of generations in the area in the past centuries, primarily intended for vineyards, followed by olive trees.

Quaini (1973) points out that in the medieval period in far eastern Liguria, the dominant crop was the grapevine, while the olive tree is a widespread tradition whose introduction is the work of the Benedictine monks, who already in the Middle Ages were distributing and collecting along the coast and in the hinterland of Liguria.

Today, the agricultural landscape of the Cinque Terre, including Tramonti, is represented by about 600 hectares of which 400 are used as vineyards, 100 as olive groves and the remaining 100 for other crops (Fig.1).



Fig. 1 - View of Schiara.

Source: Photograph by the A. (2013).

Of the 400 hectares of vineyards, grown on terraces overlooking the sea, a large part is abandoned or being abandoned. One of the most terraced areas is that of Manarola and Riomaggiore, which belongs to the internal townships of Groppo and Volastra.

In this area, which is spread along 15 km of coastline and is between 600-700 meters above sea level, viticulture is the predominant vocation.

3. *Tramonti: the study area*

Tramonti in La Spezia is a narrow strip of land between a linear ridge with a height of between 350 and 600 meters and a high rocky coast, with narrow beaches of coarse detritus, enclosed between Riomaggiore and Portovenere, and is the only direct view of the City of La Spezia on the Ligurian Sea (Fig. 2).



Fig. 2 - Location of Tramonti (La Spezia).

Source: Author's elaboration on IGM map "Portovenere", Foglio 95, II SO, 1862, scala 1: 25.000; IGM map "Lerici", Foglio 95, II SE, 1933, scala 1: 25.000.

Topographically the area is bordered to the west by Punta Merlino and to the east by Punta Persico. The coast of Tramonti enjoys a mild climate, as it is exposed to the west and is protected from the north winds by steep, rugged terrain. Halfway along the coast there are many small nuclei, Persico, Schiara, Monesteroli, Fossola and Campi, and scattered houses, now partly deserted, but at one time they were the powerhouses of the great farming activity which had built terraces in this area at an altitude of 350-400 meters above sea level.

From a geological point of view Tramonti is built on tuscan sandstone boulders and its eastern boundary is the boundary between sandstone and limestone, which are separated by a narrow outcrop mixed with marl and flint limestone, defined for this area as "The Red". The geological boundary coincides with the morphological and landscape: the limestone rock, more compact, corresponds to the lines of cliffs and rocks overlooking the sea, on the other hand the sandstone leads to a lower steepness allowing human settlement.

Indeed the area, over centuries, has been completely transformed by man by building low-lying bands, which in many cases reach very high altitudes at the coastal watershed; terraced areas are supported by dry stone walls that historically were almost entirely cultivated by vines.

The potential vegetation of Tramonti, without human intervention, would be represented mainly by oak and only in the vicinity of the ridge

downy oak and turkey oak. Near the sea, especially in areas with cliffs without anthropic transformations, the original vegetation remains rock, with salt-tolerant shrubs, adapted to difficult conditions with the presence of high salinity and lack of fertile soil.

The civilization of the coast of Tramonti has resulted in the disappearance of oak, replaced by terraces and the distribution of woody species such as maritime pine and chestnut trees in the upper part and the Aleppo pine along the coast.

Currently with the abandonment of most of the crops, vegetation is slowly approaching a situation classified as 'potential': pioneer vegetation which has changed with evolution has settled on the terraces. In areas abandoned for the longest time, oak has been reconstituted or maritime pine has further spread, unfortunately much more subject to spontaneous combustion.

The isolation of Tramonti from the main nineteenth century roads has avoided the big changes of landscape, to which most other coastal villages in Liguria have been subjected, including the Cinque Terre, with the construction of the railroad and has been allowed to keep its historical-cultural values related to a pre-industrial world. Today it is still difficult to reach: by car you can arrive only to Campiglia, passing the hamlet of Marola which falls under the Municipality of La Spezia, then from there a dense network of paths and steep steps branch off that descend to the sea, creating a territorial system viable only on foot or by car from the coastal road towards Biassa after a long tunnel there is a panoramic car park from where you walk down towards Schiara (Fig. 3).



Fig. 3 - Steep steps in Schiara.

Source: Photograph by the A. (2013).

Another way to reach Tramonti is from the sea, but there are no safe havens, often the slope exceeds 70%, especially in the initial part of the cliff and the risk of landslides and falling rocks is very high.

Today, from the comparison between the current and the historical cartography, from the observation of aerial photographs and those in the field, terraced areas, although their agricultural vocation have been abandoned in most cases, are still top-permanent marks on the territory and consequently represent the elements of value of the historic landscape.

This 'derelict' landscape, preserved by its isolation, is today very vulnerable, because with the gradual agricultural abandonment of the terraced bands, the continuation of the Mediterranean spot and at the same time increasing problems of hydrogeological and slope stability, reaching in some cases a disturbing level of severity (Fig. 4).



Fig. 4 - Tramonti: problems of hydrogeological and slope stability.

Source: Photograph by the A. (2013).

Around 1960, as with all of the Cinque Terre, the area of Tramonti suffered an economic crisis, however in 1980 it tried to implement agricultural production with the introduction of a system of modernization, such as racks for the transportation of grapes and reconnected paths through properties which had become more and more divided.

Another significant change undergone over time concerning housing conduct: if once the territorial identity of Tramonti was closely linked to agricultural production, the areas under cultivation shrank drastically, leaving fields to new forms of use, mainly concentrated in the housing stock. The 'cellar' (locale-cantina) has always been conceived as a "shelter" from the second half of the last century but increasingly being used as a dwelling,

while temporary and rustic. In this perspective, the agricultural work takes on a different role: as an activity that preserves its own 'cellar' and areas adjacent to it by the advance of the Mediterranean spot and coastal landslides. This change in thinking concerning viticulture has produced clearly visible facts. On the one hand the most difficult areas to reach have become cliffs covered with Euphorbia, heathers and oaks, and second, in the less steep and adjacent to the villages an intensive cultivation of the vine has been established, that gives an idea of the spectacle that was once offered all along the coast.

4. *Recovery of the rural landscape for tourism*

At present this recognition of the territory of Tramonti has not yet led to serious consequences, as has happened to some parts of the Cinque Terre, which have undergone a process of landscape maquillage. The historic villages and the main tourist routes have been retrained, but most of the terraces, once cultivated, especially in the vineyard, are in a state of neglect and constitute a threat, because the collapse of rubble walls in support of the cultivated strips are generating many natural hydrogeological instabilities. So not to arrive at a similar situation and for the active management of the landscape of Tramonti, it is necessary to closely monitor the changes, generated by the indirect notoriety attached to the Cinque Terre that can increase tourism with the risk of degrading the landscape and distancing the inhabitants.

Therefore, this territory must be used in a durable way, counteracting the processes of homogenization, the deterioration of the artifacts and the loss of biodiversity, characteristics and strong points of the Italian Mediterranean landscapes.

How can tourism improve the situation of damage and decay, and at the same time enhance this area?

From a study done on the evolution of the landscape of Pantelleria (Ruhl *et al.*, 2005), the results found that a new form of naturalness was being born, the terraces are disappearing, as well as the cultivation of capers and vineyards. The choice of whether to leave the areas to the free evolution or intervene with reforestation depends on the speed of the processes and the "quality of vegetation that naturally settles uncultivated". Terraced areas with steep slopes facing south are subject to intense erosion processes that, in addition to destroying the dry stone walls, wash away the soil, while other areas are subject to the invasion of non-native species, such as the tree of heaven or the locust, to the detriment of native species. It goes with the territory, however, to a different guise, but is it actually a loss of identity? Does the new landscape offer advantages or disadvantages to the community?

Perhaps will it lead to what Gilles Clément (2005) defines as "Third Landscape"?

The Third Landscape is interested in spaces considered “undecided”, among these fragments there is only one point in common: “all represent a refuge for diversity [...] Rural areas produce many more residues [...] as its importance is pronounced” and “the importance of diversity contributes to the spread of the Third landscape [...] for nature, the third landscape is an area for many species that do not fit anywhere else, it seems to be the territory of organic invention (Clement, 2005, pp. 10-11).

The renaturalization and the increase in forest area, is a direct or indirect result of the abandonment of agricultural and pastoral activities, has a negative effect on the conservation of the landscape, the cultural identity and the development of biodiversity?

If you cannot fully maintain a cultural landscape, characterized by an age-old relationship between man and nature, it is necessary to arrive at a balanced and consistent plan of the territory, with the development of new landscapes with a high state of “naturalness”, but with retention albeit partial of those who testify to the work of man. Therefore, the development of alternative tourism, which focuses on safeguarding and upgrading of landscape features, on the one hand should not hinder the trend towards an increase in the natural, the other must strengthen the increasingly weak anthropic signs, following the main contemporary cultural trends.

However, regardless of what has happened in the past, where the *genius loci* was innate in the population, conservation and preservation are fundamental, if nothing else, a part of the coastal terraced landscape, not only because it is the typical image of the Mediterranean, but also for its socio-economic value. Clearly in Tramonti the upkeep cultivation will always have a value as a witness, without arriving at a form of self-reliance, but only to the realization of a product of excellence (this has happened with all of the Cinque Terre), which is still useful to preserve the image of the landscape and to create a sort of living museum.

On the other hand, we should also pay attention to the excesses, for example the extension of vineyards in many cases exceeds the capacity of the territory, under the pressure of commercial interests and often regional incentives, adversely affects the balance of the landscape, especially in areas of land greatly valued and thus putting at risk the beauty of the landscape, such as Castagneto Carducci (Agnoletti *et al.*, 2006).

This highlights the need to identify dimensions and locations compatible with the traditional landscape, but also cropping systems appropriate to limit, for example, where there are terraces also the negative effects of erosion due to readjusted crops.

5. *Tramonti: the experimental laboratori*

The area of Tramonti is characterized by a unique viticultural landscape overlooking the sea, with dizzying stairs and climbs, small and very small

plots still planted with low vines (Fig. 5), the Mediterranean spot and the coast to the most inaccessible areas of cliffs overlooking the sea. The project promoted by the Municipality of La Spezia proposes the setting up of a scientific laboratory for the study of re-naturalization of certain wine-growing areas and wine permanence of others, with particular attention to the development of new varieties in relation to the natural environment and cultural heritage.



Fig. 5 - Tramonti: low vines.

Source: Photograph by the Author (2013).

The project comprises the area between Punta Merlino and Punta Persico characterized by the presence of a landscape extraordinarily rich in environmental and cultural values, sometimes still untouched, in relation to the original cultivation of the vine.

From ancient times until the early nineteenth century, the vineyards were kept on the ground and eventually upheld by a reed, small tree to tree, during maturation. After this date, the characteristic of a pergola was introduced, which still has a version with a very low height (40 cm) and a base (approximately 1 m), which is the most widespread. This type of farming is also more productive but it is very costly, as it is not mechanized. Man must, in fact, work with small hoes, under the pergolas, in an awkward position and dividing the earth in his hands. The average production of pergolas is relatively high, ranging anywhere from 70 to 120 q.li/ha. There are still very old vineyards crawling on the ground to adapt to difficult environmental conditions (Agnoletti, 2011): today remain the “wrecks” of this type of cultivation, more and more replaced by a crop, although manual, but “higher”, to allow the mowing of the overgrown lawn, only at

the root and a few times a year, with the introduction of racks to transport the grapes and gear.

The municipality of La Spezia has promoted the establishment of an experimental laboratory for the study of the historical and agricultural landscape of Tramonti, in a place where some original arrangements of fundamental interest are preserved.

Sample areas have been identified for scientific experimentation; recovery of the garrison and enhancement of existing rural trails at high altitude in local stone.

The themes and related issues are not only the resumption of construction on existing buildings, but above all an attempt to create a connection between building restoration and recovery of the existing agricultural heritage on the one hand by creating connections between buildings and terraced land and forcing all new owners to maintain at least a portion of the land, if not themselves then as property loaned. Another address recently adopted by the city to promote the redevelopment of this cultural landscape, characterized by an excessive fragmentation of ownership, is to also guide the individual farmer-owners with the help of local associations to the use of European funding through the regional strategic plan, up to now only used by agriculture, the stimulation of small receptivity has also been promoted and the promotion of school camps for study and research.

To put into practice the recovery of the agricultural landscape in an alternative way, the town of La Spezia has promoted a pilot project on the recovery of a private terraced area, given as a concession for 20 years to an association, which will be responsible for its maintenance and cultivation of the vineyards which are now abandoned, following new types of crops.

There is a dilemma: is it better to follow the municipal rules, if it works that allows the recovery of many abandoned terraces but radically transform the historical landscape of Tramonti characterized by creeping vine or maintaining the 'anachronistic' and almost impossible to cultivation of low-lifes?

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Dilemma: riquilificazione del paesaggio o conservazione della viticoltura a bassa crescita?

Il caso di studio di Tramonti (Liguria, Italia)

Tramonti (La Spezia) si trova all'interno del sito UNESCO "Porto Venere, Cinque Terre e le isole Palmaria, Tino e Tinetto" ed è Patrimonio dell'Umanità per i caratteri originali del paesaggio a terrazze coltivate a vite. Il comune della Spezia ha promosso un progetto-pilota sul recupero di un'area terrazzata privata, data in concessione per 20 anni ad un'associazione, che si occuperà della sua manutenzione e della coltivazione della vite attualmente in abbandono seguendo i nuovi tipi di coltura 'alta' per permettere lo sfalcio del prato incolto solo in corrispondenza dell'apparato radicale in contrasto con quella storica coltivata 'bassa' per adattarsi meglio alle difficili condizioni ambientali, di cui oggi restano solo alcuni 'relitti'. Nasce un dilemma: è preferibile l'indirizzo perseguito dal comune, che se funziona permette il recupero di molti terrazzamenti abbandonati, oppure la conservazione 'anacronistica' e quasi impossibile della coltivazione a vite bassa?

Dilemme: amélioration du paysage ou conservation des vignes avec une faible croissance?

L'étude de cas de Tramonti (Ligurie, Italie)

Tramonti (La Spezia) se trouve dans le site du patrimoine mondial de l'UNESCO "Porto Venere, Cinque Terre et les îles de Palmaria, Tino et Tinetto" et est un site du patrimoine mondial par les caractères originaux de la terrasse du paysage de vignes. La municipalité de La Spezia a lancé un projet pilote sur la reprise de la zone de terrasse privée, compte tenu d'une concession pour 20 ans avec l'association, qui sera responsable de l'entretien et de la culture de vit actuellement à abandonné à la suite des nouveaux types de cultures «élevé» pour permettre la tonte de la pelouse envahie seulement à la racine cultivée en contraste avec l'historique «faible» pour mieux s'adapter à des conditions environnementales difficiles, dont certains restent aujourd'hui seulement "épaves". Naissance d'un dilemme: l'adresse est préférable poursuivi par la municipalité, si cela fonctionne qui permet la récupération de nombreuses terrasses abandonnées, ou le maintien de la «anachronique» et presque impossible culture des vignes basses?