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## Degradation of the Palladian landscape

Between 1994 and 1996, United Nations Educational, Scientific and Cultural Organization (UNESCO) placed 24 villas designed by Andrea Palladio on the World Heritage List. In this way, the universal value of Palladio's works has been recognised. The analysis of Palladio's villas provides evidence that in its thinking, the villa was a building deeply integrated in the surrounding landscape. Whereas in the past, a great deal of attention was devoted to preserving the Palladian villas, the Italian public authorities extended the prohibition on modifying the property to the landscape in only a small number of cases. The aim of the paper is to analyse the transformation of the landscape surrounding the Palladian villas inscribed in the World Heritage list from the beginning of the 19<sup>th</sup> century until today.

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### 1. Introduction

According to the Institute for Regional Venetian Villas, there are 4,404 Venetian villas, 3,968 of which are located in the Veneto region, and 436 of which are located in the Friuli Venezia Giulia region. The Venetian villas are a fundamental part of Italian heritage.

The villas' importance was recognised by UNESCO, which added 24 villas designed by Andrea Palladio to the World Heritage List between 1994 and 1996.

The diffusion of the villas on the Veneto mainland (or *terra firma*) started in the second half of the 15<sup>th</sup> century and deeply influenced the characteristics of the regional landscape.

Before that era, Venice had no possessions on the mainland except for a small land strip called "Dogado" from about the Po River delta to the mouth of the Isonzo River. Venetian residents were forbidden to own land on the mainland.

From the beginning of the 15<sup>th</sup> century, the policy of the Venice Republic changed drastically. Within a few years, the so-called Dominante defeated an ample dominion that included the entirety of the Veneto and Friuli Venezia Giulia regions and a non-negligible portion of the Lombardia region (Lane, 1973, Ackerman, 1985).

Venetian patricians progressively acquired a substantial number of possessions and invested part of their commercial profits into farming activities. Inside their possessions were residential buildings that served both as farm centres and as places of delights (*luogo di delizie*) (Grubb, 2011).

In the 14<sup>th</sup> century, there were two types of noble dwellings on the Veneto terra firma with characteristics different from those of noble dwellings designed in the second half of the 15<sup>th</sup> century (Cosgrove, 1993). The first type of dwelling was the working farmhouse, *"a modest structure located within a farm court made up of utilitarian structures bordering an open central area"* (Ackerman, 1985, p. 89). This complex was usually enclosed within a lower wall. The second type of dwelling had no direct relationship to farming activities; instead, its characteristics descended from the medieval castle (Ackerman, 1985, p. 89). These mansions were usually surrounded by high walls and towers aimed at protecting the landlord from attacks by enemies or gangs of thieves.

The extension of the Venice dominion to the mainland improved the territory's safety, rendering its isolation and defensive buildings useless and thus fostering the use of the villa as a place of delight and relaxation (Varanini, 2005).

A new architectural and residential typology progressively spread throughout the Veneto countryside, which maintained some elements belonging to farmhouses while displaying the magnificence of the patrician mansions.

Typically, there were utilitarian buildings (barns and granary) near the villa called *"barchesse"*, an Italian garden (usually in front of the villa), and a vegetable garden with fruit trees (called *"brolo"*) in the back. The villa was separated from the surrounding countryside only by low walls and ditches that did not block the visual connection between the villa and the surrounding cultivated land (Azzi Visentini, 2007).

The circle of humanists that was grouping in the Academy (Accademia Olimpica) of Gian Giorgio Trissino in Vicenza played an important role in defining this new conception of rural mansions (Cosgrove, 1993). Andrea Palladio was a member of the Accademia Olimpica who implemented the new philosophy of villa living in his seminal work *"The four books of Architecture"* (Palladio, 2002).

Palladio wrote in the 11<sup>th</sup> chapter of the second book that the landlord *"will perhaps find the buildings on his estate [casa di villa] no less useful and comforting, where he will pass the rest of the time watching over and improving his property and increasing his wealth through his skill in farming, and where, by means of the exercise that one usually takes on the country estate [villa] on foot or on horseback, his body will more readily maintain its healthiness and strength, and where, finally, someone whose spirit is tired by the aggravations of the city will be revitalized, soothed and will be able to attend in tranquillity to the study of literature and quiet contemplation"*.

Of these aims, the choice of a place to build the villa was of particular importance: *"First of all, then, a site should be chosen that is as convenient as possible in relation to the estate, preferably at the center, so that the owner can, without much difficulty, oversee and improve his lands around it, and its produce can conveniently be carried to the owner's house by the laborers. It will be most convenient and attractive if it can be built on a river, because the produce can be carried cheaply by boat to the city at any time, and it will satisfy the needs of the household and the animals; this will also make it very cool in the summer and will be a lovely sight, and is both useful and pleasing in that one can irrigate the grounds, the gardens, and the orchards [bruolo], which are the soul and delight of the estate"* (Palladio, 2002).

Nevertheless, raising the upper part of the villa will have *"the added charm that it can be seen from a distance and one has views from it"* (Book 2<sup>nd</sup>, chapter 2<sup>nd</sup>).

In this way, the low wall that encompasses the villa, observed from a distance, became a sort of pedestal upon which the main floor rested (Smienk & Niemejer, 2011).

It is evident that in Palladio's thinking, the villa was a building that was deeply integrated in the surrounding landscape (Burns, 2005). However, it is only in the case of the Almerico-Capra villa in Vicenza that the architect explicitly indicates the relationship between the design and the landscape. In the 3<sup>rd</sup> chapter of his second book, Palladio wrote, *"Its situation is as advantageous and delicious as can be desired, being sited on a hillock of a most easy ascent, at the foot of which runs the Bacchiglione a navigable river. On the other side, it is surrounded by several hills, that seem to form a great Theatre, and which besides are all of them cultivated, being very fertile, abounding with excellent Fruits and Vineyards: so that having the advantage of fine prospects on all sides, some confined, some more remote, and some farther that sight can reach, I have made Portico's to all the four fronts"*.

Smienk and Niemejer (2011) have demonstrated that despite the absence of explicit references in the Four Books of Architecture, other villas reveal an obvious relationship between their design and the landscape in which they were located.

The presence of such a linkage makes it necessary to preserve not only the villas but also the landscape surrounding them and in particular, the visual connection between the villa and the cultivated land (Posocco, 2001). The public authorities' policies to preserve the cultural heritage in the case of the Palladian villas (and the Venetian villas in general) should necessarily extend beyond the conservation of the buildings to include the landscape visible from the villas.

The aim of this paper is to analyse the transformation of the landscape surrounding the Palladian villas added to the World Heritage list from the beginning of the 19<sup>th</sup> century until today. To this end, land settlement has been analysed in a radius of 500 m from each villa and the number of buildings present at four different periods has been counted.

Moreover, to verify whether the landscape near the Palladian villas was preserved more than the landscape near other villas that are less important from an architectural and historical point of view, the same research was carried out among 55 Venetian villas with unknown architects.

The paper is organized as follows. The next paragraph will summarize the evolution of the Italian legislation in the field of cultural heritage protection and land use and landscape policies. In paragraph 3, the methodology will be described and in paragraph 4, the results of the research will be described. Finally, the factors affecting the transformation of the Palladian landscape will be discussed in light of the Italian legislation and considering the characteristics of regional land-use changes.

## 2. Italian Legislation on Landscape Protection

Italian legislation in the field of the protection of landscape and cultural heritage can be divided into three main branches: cultural property protection and enhancement, landscape protection and management, and urban policies. In all cases, the fundamental laws were passed before the Second World War but after that period, Italian legislation evolved in very different ways. More specifically, the state continued to play a fundamental role in the protection of cultural property and landscapes, whereas urban policies were completely assigned to regional authorities in 1977.

### 2.1 *Cultural heritage protection*

The first Italian law in the field of heritage protection was passed in 1909 (No. 364) but was substantially modified by a law passed in 1939 (No. 1089) that, referring to privately owned buildings of cultural interest, stated that any transformation should be submitted to the approval of the Culture Ministry. Despite the approval of other laws that partly modified this norm (particularly No. 42 of 2004, the “Codex of cultural heritage and landscape”), it remains in force today. The law is essentially based on the designation of a property’s cultural interest and the subsequent prohibition on modifying it without the permission of the public authorities. Approximately 48% of Venetian villas have been declared of cultural interest. All the Palladian villas are now protected by the Italian legislation; only four of those villas were added to the cultural property list after 1970 (Table 1).

### 2.2 *Landscape protection and planning*

As noted above, the aim of law No. 1089 of 1939 was to protect building integrity, but article 21 gave to the Ministry the power to prevent transformation of the surrounding territory that could damage the building, the light and the general environmental condition. This type of measure was adopted many times in the case of the Palladian villas (table 1), but only small areas were involved and in general, no attention was paid to the general asset of the landscape. The first Italian Act for landscape preservation was law No. 1497 of 1939, the “Protection of Natural Beauties Act”. The Act’s goal was to protect areas (natural and anthropogenic) of particular aesthetic beauty, historical villas, gardens and parks, vernacular landscapes, and panoramas and panoramic viewpoints. A commission of experts appointed by the Ministry of Culture was empowered to identify the areas in which to protect the landscape and control development. Any changes to these areas were submitted for approval to another commission of experts belonging to the Superintendence of the Artistic and Historical Monuments. The Act also dictates the need to create landscape master plans to define the characteristics of land development by giving indications of, for instance, the number and appear-

Table 1. Year of designation of cultural interest of the Palladian villas and adoption of measures aimed at protecting the surrounding landscape.

Villa	Municipality	Province	Building		Surrounding landscape	
			Year of designation	Law	Year of adoption	Law
Rustici Trissino	Sarego	Vicenza	1960	1089/1939		
Villa Almerico-Capra "La Rotonda"	Vicenza	Vicenza	1930 1969	364/1909 1089/1939	1955 and 1969	1497/1939
Villa Angarano-Bianchi-Michiel	Bassano del Grappa	Vicenza	1960	1089/1939	1958	1497/1939
Villa Badoer "La Badoera"	Fratta Polesine	Rovigo	1979	1089/1939	1967	1089/1939
Villa Barbaro	Maser	Treviso	1964	1089/1939	1964	1089/1939
Villa Caldogno	Caldogno	Vicenza	1981	1089/1939	1981	1089/1939
Villa Chiericati	Grumolo delle Abbadesse	Vicenza	1956	1089/1939	1956	1089/1939
Villa Cornaro	Piombino Dese	Padova	1981	1089/1939	1981	1089/1939
Villa Emo	Vedelago	Treviso	1962	1089/1939	1964 and 1966	1089/1939
Villa Forni-Cerato	Montebelluno	Vicenza	1982	1089/1939	1982	1089/1939
Villa Foscari "La Malcontenta"	Mira	Venezia	1925	364/1909	1958 to 1975	1089/1939
Villa Godi-Malinverni	Lugo di Vicenza	Vicenza	1963	1089/1939	1969	1089/1939
Villa Gazzotti-Pagello	Vicenza	Vicenza	1977	1089/1939	1977 and 2000	1497/1939
Villa Piovene-Porto-Godi	Lugo di Vicenza	Vicenza	1958	1089/1939	1969	1089/1939
Villa Pisani-De Lazara	Lonigo	Vicenza	1959	1089/1939		
Villa Pisani-Placco	Montagnana	Padova	1962	1089/1939		
Villa Pojana	Pojana Maggiore	Vicenza	1960	1089/1939	1998	1497/1939
Villa Saraceno	Agugliaro	Vicenza	1956	1089/1939	1985 and 1989	1089/1939
Villa Serago-Alghieri	San Pietro in Cariano	Verona	1962	1089/1939	2001	Law Decree 490/1999
Villa Thiene	Quinto Vicentino	Vicenza	2006	1089/1939		
Villa Valmarana-Trissino	Vicenza	Vicenza	1960	1089/1939		
Villa Valmarana, Bressan	Monticello Conte Otto	Vicenza	1927	364/1909	2005	Law Decree 42/2004
Villa Valmarana-Rossi	Bolzano Vicentino	Vicenza	1960	1089/1939		
Villa Zeno "Il Donegal"	Cessalto	Treviso	1953	1089/1939	2004	Law Decree 42/2004

ance of new buildings, the planting of trees, the implementation of new routes, and the area to be preserved and not developed.

For a long time, Act No. 1497/1939 was not enforced. In 1977, landscape policies were partially entrusted to the regions; this change in landscape protection procedures did not have marked effects. Only a few areas were identified as requiring landscape protection. Furthermore, land changes were rarely controlled. No general rules were followed to govern the impact of land uses and the granting of development permits was highly subjective. Numerous unauthorised buildings were constructed. Finally, no landscape master plans were enforced.

From the end of the Second World War to the end of the 1970s, there was a dramatic transformation of the Italian landscape. This transformation led to a critical change in Italian landscape policies. Act No. 431 of 1985 widely extended the areas where landscape must be protected. As a consequence, approximately 47% of the country was designated as protected landscape. In addition, all the regions were forced to adopt a landscape master plan. As noted above, following the prescriptions of Act No. 431 of 1985, in 1991 the Veneto region adopted a regional master plan that integrated and coordinated landscape policies and urban policies.

Despite this important legislative production, some problems were not solved (Settis, 2010). For example, the legislation did not define the term “landscape.” It is clear that when the object of a policy is not specified, subsequent normative efforts will be ambiguous and poorly targeted. This lack of Italian legislation was partially resolved by law No. 42 of 2004, the “Codex of cultural heritage and landscape” (amended by law No. 157 of 2006 and Nos. 62 and 63 of 2008). During the same period, the European Landscape Convention was ratified (Act No.14 of 2006). Law No. 42 of 2004 re-assigned the safeguarding of the landscape to state authorities (which act in cooperation with regional and local authorities). The issuance of permits to develop the territory was re-entrusted to the Superintendence of Artistic and Historical Monuments. The impact of any change in land use on the landscape was to be analysed and valued by experts commissioned by the Ministry of Cultural Heritage. In this respect, law No. 42 of 2004 does not clearly demarcate a set of objective parameters but only lists the factors to be considered for a transformation to be compatible with landscape preservation. With reference to the Palladian villas, a specific protection measure following the Italian landscape legislation has been adopted only in 7 cases out of 24 (table 1) and for 6 villas, no protection measures have been adopted pursuant to the national legislation.

### *2.3 Urban planning*

The fundamental Italian law in the field of urban planning was passed in 1942 (Town Planning Act No. 1150) (Scattoni and Falco, 2011). The law was based essentially on two main instruments: zoning and building permits. Urban planning was articulated at two levels: regional and municipal. The law was passed during the Second World War and for several years, it did not come into force. With

few exceptions, only in the 1960s some Italian cities approved a municipal plan (or General Planning Scheme) that designated the areas to be developed and the areas that should be preserved because of their historical and cultural importance. Moreover, it was only mandatory in larger cities to realize an urban plan that regulated the transformation of the entire territory. In the large majority of municipalities, the public authorities usually preferred to adopt a building plan that applied only in the proximity of the urban settlement but did not regulate the transformation of the cultivated land. Moreover, building permits became mandatory outside of the urban area very late (Act No. 765 of 1967); thus, for a long period of time, especially in the countryside, building construction lacked any real control.

In 1977, there was a fundamental modification of the Italian urban planning legislation. Following a norm of the Constitution of the Italian Republic, the jurisdiction on urban legislation was decentralised to the regions. Beginning in 1978, the Veneto Region passed laws aimed at improving municipal urban planning practices. In 1985, two laws were issued (Acts No. 24/85 "Preservation and development of rural areas" and No. 65/85 "Land use planning norms").

Urban planning activity was subdivided into three hierarchical levels: regional, provincial and municipal. With few exceptions, the Regional Master Plan only defined the main strategies of land transformations while the mandatory measures of land and landscape protection were empowered to the provinces. The adoption of an urban plan became mandatory for all of the municipalities regardless of the number of inhabitants. However, because of the huge bureaucracy and the need to collect a large amount of information about the characteristics of the territory, it was only in the second half of the 1990s that entire municipalities were able to adopt their urban plans.

In 1991, the Veneto region passed its first Regional Master Plan, which assigned the identification and protection of cultural goods and cultural landscapes to the Provincial Master Plan. The Provincial Master Plans were never approved and no mandatory norms for the protection of the landscape around the Venetian villas were adopted by the municipal urban plans. For a long time, territorial development essentially ignored the need to preserve the historical landscape.

At the beginning of the new century, the Veneto region passed law No. 11/2004 ("Norms for the management of the territory"). In that law, the Region explicitly – and for the first time – committed to the provinces the identification of the Venetian villas and the visual context of their landscapes. This commitment was also extended to the municipalities. From 2010 to 2012, six out of seven provinces passed master plans. Note, however, that only two provinces (Vicenza and Treviso) promoted specific rules, whereas the others delegated this task to the municipalities.

With reference to the municipalities where Andrea Palladio's villas are located, in the middle of the 1970s, a master plan was approved only in four cases out of 24 (Vicenza, Montagnana, Mira e Bassano), whereas in the other cases building activity was ruled by a building plan. However, in the middle of the 1990s, all of the municipalities had urban plans. It was only in a few cases, however, that there were specific norms aimed at preserving the villa's landscape.

Today, 18 municipalities have urban plans that comply with the norms of the new regional legislation; some specific land use regulations limit urbanisation in the areas near the villas.

Finally, the 1996 additions to the World Heritage list had the effect of promoting a new awareness of the importance of preserving the landscape of the Palladio villas. The Master Plan realised in 2007 following the prescription of the Italian Law No. 77 of 2006 clearly defined the pertinence of the Palladio villas and in this respect, it promotes the preservation of the landscape considered intrinsically as a part of the monuments. However, one must note that in many cases, the property areas belonging to the villas were very small and usually there were no buffer zones to protect the rural landscape surrounding the villas. In an attempt to overcome this potential drawback, in 2006 the Veneto region promoted the realisation of a strategic plan aimed at preserving the rural landscape and the visual cone in the proximity of the villas. However, that plan has not come into force.

### 3. Materials and methods

The first step in analysing the transformation of the Palladian villas landscape was the review of the existing cartography with reference to four periods: the beginning of the nineteenth century; the years immediately subsequent to the Second World War and recent years. It was decided to not extend the research to before the beginning of the 19th Century because of the difficulty of obtaining homogeneous cartography coverage of the area under analysis that would encompass nearly all of the plain and hill territory of the Veneto region. In this respect, one also must consider that from the beginning of the Seventeenth century to the fall of the Venice Republic (1797), the population grew very slowly; there was no significant progress in farm production practices and in almost all of the locations of the Palladian villas, no land reclamation activities were carried out. Following Antrop (2005), it is possible to maintain that the traditional landscapes were transformed before the beginning of the 19th century. To a certain extent, therefore, it is possible to suppose that during that period, the landscape remained similar to that observed by Palladio when he designed his villas.

With reference to the first period, the military map of the Dukedom of Venice (Topographisch-geometrische Kriegskarte von dem Herzogthum Venedig - Kriegssarchiv of Vienna) has been used. The dukedom's cartography consists of 128 tablets on a scale of 1:28,000 and was created by a staff of military topographers coordinated by General Anton Von Zach from 1798 to 1805. The Von Zach map is very detailed and it is possible to identify the most important features of the landscape (natural areas, main type of cultivations, roads and watercourses, rural and urban settlements, other buildings). The map covers all of the areas that contain Palladian villas, with the exception of Villa Badoer at Fratta Polesine (Rovigo province). In this case, the less-detailed topographic map of the Lombardy-Venetia Kingdom was used. This cartography was realized in 1833 on a scale of 1:86,400.



For the second period, the tablets of the Italian Military Geographic Institute map created from 1965 to 1970 on a scale of 1:25,000 were utilised. This cartographic source is very detailed and permits recognition of the same elements as those featured in the Von Zach map. The choice of this time period is motivated by the fact that after the 1960s, the Veneto region experienced a dramatic economic transformation. From the most important cities, industrialisation sprawled into the rural areas and a rapid decentralisation of the population followed. All of the small villages and hamlets scattered in the central Veneto plain changed their rural nature and become progressively urban settlements.

Finally, to obtain information about the land use situation in recent years, the Regional Technical Map on a scale of 1:5,000 was used. This period is also of particular interest because from 1994 to 1996 the Palladian villas were added to the UNESCO World Heritage list. Accordingly, it was possible to verify whether the landscape around the villas has been transformed following the UNESCO listing.

To update information about land use changes, because there is no more recent cartography, some online sources were considered (Google Earth and Bing Maps). This has made it possible to analyse the layout of the landscape during 2012-2013.

Two types of analysis were carried out for each period. On the one hand, there was a qualitative analysis of cultivation changes, modifications of the streambeds, and wetlands reclamation in a 500 m radius from the villas. On the other hand, the buildings present at the different ages were counted. The change of the number of buildings in a 500 m radius can be considered an acceptable proxy of the urbanisation process that implicated the landscape near the villas. Indeed, considering the diversity of the cartographic sources, it was very difficult to measure and compare the artificialised areas during each period. However, with reference to recent years, it was possible to quantify the percentage of urbanised land by means of the Corine Land Cover 2006 data.

To verify the quality of the information collected analysing the cartographies, an onsite inspection was carried out.

Finally, considering the importance that Andrea Palladio attributed to the possibility of seeing the countryside from the villa (especially from the noble floor), the visual cone over the cultivated land was measured both at the beginning of the 19<sup>th</sup> century and in the most recent years. This additional inspection was useful to better understand the visual and aesthetic impact of the land use transformations. Indeed, *ceteris paribus* the landscape impact of a new settlement can change drastically depending on its distribution in a territory.

The intensity of land use changes, particularly the urban development process, can be influenced by several factors. In this respect it is possible to suppose that the urban context in which the villas were built may have non-negligible effects on the subsequent development of the territory where the villas are located. Because the goal is to evaluate this possible effect considering the situation at the beginning of the 19<sup>th</sup> century, the villas were classified into four groups: adjacent to a village or town, adjacent to a hamlet, not far from a hamlet, and isolated in the countryside. Roughly, villas that were located approximately 50 m from a

buildings belonging to a town, a village or a hamlet were considered adjacent. If the distance was from 50 m to 500 m, villas were considered not far from a hamlet, whereas in other cases, they were classified as isolated in the countryside.

To verify whether the landscape surrounding the Palladian villas has been protected more than the landscape surrounding other Venetian villas, the previous analysis was extended to 55 villas of less architectural and cultural merit located in four municipalities in the central part of the region. The same data collected for the Palladian villas was collected for these less-significant villas.

## 4. Results

### *4.1 Landscape and settlement typology at the beginning of the nineteenth century*

The Palladian villas were built in very different landscape contexts and with the only exception of the mountain, they are located in the main geographic area of the Veneto region: hill, high and low plain (figure 1).

Four villas are in the hills (Villa Almerico-Capra, Villa Godi, Villa Piovene and Villa Barbaro). Villa Serego-Alghieri is situated in a small elevation in front of the plain. From these villas it is possible to have a panoramic view of the surrounding hills and over the plain that begins at the foot of the hills. The other 20 villas are in the plain, mostly in the low plain.

In many cases, the villas are located not far from a watercourse. However, only three overlook a river: Villa Foscari "La Malcontenta" (on the Brenta River), Villa Pisani-De Lazara and Villa Thiene.

The analysis of the cartography of the early 19<sup>th</sup> century evidences the presence of a close relationship between the villas and farming activity. Often, the villas seem to be located at the centre of a vast land property.

In general, the villas were bordered by cultivated land and in many cases were totally surrounded by fields. In two villas, there remained a long and straight road bordered by tall trees ("stradon") that departed from the front and the back and went towards the farmland. In all cases, there was an Italian garden in front and an orchard in back. Note that there were no parks with tall trees or other wooded land. Thus, from the villas one could view a wide vista on the countryside.

In the plain, the most diffused cultivation was the typical "piantata di vite", that is, an arable land in which each parcel was bordered by rows of vines (Sereni, 1961, p. 177). The vines were originally supported by maple trees and later by mulberry trees. However, at the beginning of the 19<sup>th</sup> century, there were also other crops near the villas especially rice and wet meadows. Analysis of the works of some Venetian Renaissance painters and Venetian Cadastre from the middle of the 16<sup>th</sup> Century provided evidence that the landscape portrayed by the Von Zach maps is substantially similar to that one in which Palladio designed his villas.

With reference to the settlement at the beginning of the 19<sup>th</sup> century, 10 villas were situated near a village, 4 were situated not far from a hamlet and 8 were isolated in the countryside (Table 2).

Table 2. Venetian villas designed by Andrea Palladio grouped by settlement typology at the beginning of the 19<sup>th</sup> century.

Settlement typology	Villa	Municipality
Adjacent to a village or a small town	Villa Badoer Villa Pisani-Placco	Fratta Polesine Montagnana
Adjacent to a hamlet (distance of less than 50 m)	Rustici Trissino Villa Caldogno Villa Cornaro Villa Emo Villa Forni-Cerato Villa Gazzotti-Pagello Villa Pisani-De Lazara Villa Thiene Villa Trissino Villa Valmarana-Rossi	Sarego Caldogno Piombino Dese Vedelago Montecchio Precalcino Vicenza Lonigo Quinto Vicentino Vicenza Bolzano Vicentino
Not far from a hamlet (distance from 50 to 500 m)	Villa Barbaro Villa Poiana Villa Serego-Alighieri Villa Valmarana-Bressan	Maser Pojana Maggiore San Pietro in Cariano Monticello Conte Otto
Isolated in the countryside (distance of more than 500 m)	Villa Angarano Villa Almerico-Capra "La Rotonda" Villa Chiericati Villa Foscari "La Malcontenta" Villa Godi-Malinverni Villa Piovene-Porto-Godi Villa Saraceno Villa Zeno	Bassano del Grappa Vicenza Grumolo delle Abradesse Mira Lugo di Vicenza Lugo di Vicenza Agugliaro Cessalto

In any event, note that the villages were composed of a small number of houses situated near the principal streets. With the only exception of the villa in Montagnana (PD), the linkage with the surrounding cultivated landscape was very tight and the buildings situated close to the villa were only a few, regardless of the settlement context.

The only villas in which there were a non-negligible number of buildings near the villas or their parks were Villa Emo, Villa Gazzotti-Pagello, Villa Cornaro and Villa Valmarana-Rossi.

The external buildings did not enclose the villa: there were always wide views of the countryside. It is also interesting to note that there was always a clear separation between the space of the villa and the space of the village buildings. In some cases, this separation was created by a road (e.g., Villa Caldogno, Villa Cornaro, Villa Emo) and in others, it was created by a river (e.g., Villa Pisani - De Lazara).

## 4.2 Territorial transformations

In many cases from the beginning of the 19<sup>th</sup> century until today, the landscape surrounding the Palladian villas experienced a profound change. These transformations were partially attributable to the farming innovations that occurred especially often after the Second World War, but the most radical change was caused by the spread of modern buildings on the territory.

With reference to the agricultural transformations, in the low plain and especially along the resurgences belt, the hydraulic regime near the villas was changed to improve farm profitability and the land was reclaimed. The course of the rivers was diverted or the riverbed was rectified, making it possible to initiate more intensive forms of agriculture (abandonment of permanent meadows in favour of arable land). Modifications to the hydraulic regime also made it possible to develop some areas where there previously had not been permanent settlements because of either subsoil stagnation or frequent flooding. Modern cultivation techniques (particularly the mechanization of farming operations and the use of herbicides) caused the disappearing of the “*piantata di viti*” that was the most typical characteristic of the traditional Veneto plain landscape. The need to reduce the cost of mechanisation induced the modification of the shape and the size of the plots and the simplification of the landscape mosaic.

Nevertheless, the landscape transformations induced by the agricultural sector have at least some degree of reversibility and in any event, did not cause the total disappearance of the agrarian landscape. Fortunately, such transformations did not always change the territory's structure and infrastructure. The countryside lanes, the orientation of the plots and trenches, and the distribution of farm buildings have been preserved in most cases and for that reason, there has not been a total loss of the traditional landscape features.

However, as noted above, the most important factor in landscape transformation has been the growth of residential and productive urban settlements. Table 3 reports for each villa the number of buildings existing at the beginning of the 19<sup>th</sup> century, the number of buildings built from that period to 1965-1970, from 1965-1970 to 2000 and from 2000 to 2012.

At the beginning of the 19<sup>th</sup> century, there were an average of 32 buildings within 500 m of the Palladio villas. Only in two cases (Villa Badoer in Fratta Polesine and Villa Pisani-Placco in Montagnana) were there more than 90 buildings. These villas were located, as noted, near two small towns. In all other cases, the presence of buildings was very limited: the number ranged from 25 to 35 buildings within 500 m of only four other villas. Often, as in the case of Villa Emo or Villa Cornaro, there were some small clusters of houses near the villa along the access road where the farm labourers lived. Starting at the beginning of the 19<sup>th</sup> century and especially since 1970, with few exceptions in the territory surrounding the villas, there was intense building activity. Currently, on average there are approximately 225 buildings around the villas, 75 of which date to the period between 1805 and the 1970s, whereas 117 were constructed during the next forty-

Table 3. Number of buildings located in the radius of 500 m by construction period.

Villa	Number of buildings				Total
	Before 1800	1800 to 1970	1970 to 2000	2000 to 2012	
Rustici Trissino	3	70	145	25	243
Villa Almerico-Capra, "La Rotonda"	14	90	38	1	143
Villa Angarano-Bianchi-Michiel	8	51	156	23	238
Villa Badoer "La Badoera"	96	55	87	2	240
Villa Barbaro	23	110	60	3	196
Villa Caldogno	7	127	209	28	371
Villa Chiericati	16	13	18	0	47
Villa Cornaro	32	177	147	50	406
Villa Emo	30	54	78	20	182
Villa Forni-Cerato	12	44	86	9	151
Villa Foscari "La Malcontenta"	6	168	129	17	320
Villa Godi	10	33	63	0	106
Villa Pagello-Marcello	18	95	155	19	287
Villa Piovene-Porto-Godi	11	52	65	0	128
Villa Pisani-De Lazara	25	78	66	9	178
Villa Pisani-Placco	347	87	72	13	519
Villa Pojana	19	35	121	9	184
Villa Saraceno	7	1	2	0	10
Villa Serego-Alghieri	9	79	198	9	295
Villa Thiene	20	98	173	14	305
Villa Valmarana-Trissino	15	183	150	1	349
Villa Valmarana-Bressan	14	28	142	1	185
Villa Valmarana-Rossi	32	64	170	20	286
Villa Zeno "Il Donegal"	10	22	18	0	50

two years. In 13 villas more than 50% of the buildings in the surrounding area was built after the second half of the 1960s (Table 3).

Construction activity prior to 1970 was particularly intense near Villa Cornaro, Villa Foscari "La Malcontenta", Villa Valmarana-Trissino, Villa Barbaro and Villa Caldogno, where more than 100 buildings were constructed. In the aftermath of that activity, this threshold was exceeded in 12 villas. In Table 3, we can also see that often the process continued almost to the present. Indeed, for ten villas more than 5% of nearby buildings were built after 2000.

Although buildings constructed after the mid-1960s sometimes were not visible from the villa, in many cases, because of the distance, the localization and the artefacts features, the new urban settlements worsened the villas' relationship with the surrounding agricultural landscape. See, for example, Villa Angaran-Bianchi-Michiel, Villa Caldogno, Villa Poiana and Villa Serego-Alghieri. With respect to the current situation, the villas with the lowest number of buildings within 500 m are Villa Saraceno (10 buildings), Villa Chiericati (47) and Villa Zeno (50). Conversely, the largest number of buildings is found at Villa Pisani-Placco, followed by Villa Cornaro (406), Villa Caldogno (371) and Villa Valmarana-Trissino.

In some cases, the degradation of the surrounding landscape was particularly relevant. For example, overlooking the Brenta in front of Villa Foscari "La Malcontenta", which is undoubtedly one of the most admired Palladian villas, across the river one can see a large housing development constructed after the Second World War. In front of Villa Valmarana-Bressan, a post-1970 housing allotment was created that could have been confined to the town and not spread throughout the countryside. Looking out of the two villas in Lugo di Vicenza (Villa Godi-Malinverni and Villa Piovene-Porto-Godi) at the foot of the hills you can see large, completely parcelled areas. Even near the Villa Almerico-Capra "La Rotonda", after the Second World War settlements interrupted the spatial and visual continuity between the villa and the Bacchiglione River flowing at the foot of the hill that was quoted by Palladio himself. Equally important in some cases has been the building of infrastructure or industrial areas. Thus, in what was the "brolo" of Villa Valmarana-Rossi, Highway 53 was laid out. In some cases, industrial areas were constructed less than 300 m away from the villas (see, for example, the cases of Villa Forni-Cerato or Villa Chiericati).

To better understand the transformations that occurred around the villas, it might be useful to analyse the territorial transformations considering the settlement typology in which the villas were located at the beginning of the 19<sup>th</sup> century (Table 4). The average number of buildings around the villas in 2012 decrease from those that stood near a rural/urban village to those that stood isolated in the countryside (Table 4).

Analysis of Table 4 permits the deduction that the territorial transformations that affected the Palladian villas' landscapes were influenced by the characteristics of the settlement structure of the early 19<sup>th</sup> century. The number of buildings placed near the villas at the beginning of the 19<sup>th</sup> century was relatively homogeneous regardless of the settlement context. Excluding the villas located close to the two larger centres, there were approximately 19 buildings near the villas adjacent to a hamlet, 16 near the villas not far from a hamlet and 10 buildings near the village that were isolated in the countryside. However, excluding the first settlement typology, the average number of buildings is not significantly different ( $P < 0.05$ ).

Starting from the beginning of the 19<sup>th</sup> century, the growth of the villages incorporated villas regardless of whether they were in immediate proximity or placed at a certain distance. These data highlight that the settlement processes triggered by the economic development after the Second World War do not seem to have considered the need to protect the villas' landscapes.

Table 4. Average number of buildings constructed in the four periods considered and artificial surface in 2006 by settlement typology in the early 19<sup>th</sup> century.

Settlement typology	N.	Average number of buildings constructed by period					% of artificial area on average in 2006
		Before 1800	1800 to 1970	1970 to 2000	2000 to 2012	Total	
Adjacent to a village or a small town	2	221.5	71.0	79.5	7.5	379.5	57.7
Adjacent to a hamlet (distance lower than 50 m)	10	19.4	99.0	137.9	19.5	275.8	44.7
Not far from a hamlet (distance from 50 to 500 m)	4	16.3	63.0	130.3	5.5	215.0	33.9
Isolated in the countryside (distance more than 500 m)	8	10.3	53.8	61.1	5.1	130.3	23.4
Total	24	32.7	75.6	106.2	11.4	225.8	36.9

This emerges with particular evidence considering the percentage of the building constructed in each period (Table 4). On average, 52.1% of the buildings were constructed after 1970.

In the two villas situated near to rural/urban centres, 58.4% of the buildings were present before the beginning of the 19<sup>th</sup> century. Conversely, in the case of the villas that stood not far from small rural villages, 63.2% of the buildings were built after 1970.

This fraction is very high even in the case of the villas that were adjacent to rural villages (57.1%), whereas it is lower for those that were isolated in the countryside, where 49% of the buildings placed within 500 m date back to between 1800 and 1970.

Table 5. Average number of buildings constructed in the four periods considered by settlement typology in the early 19<sup>th</sup> century, in percentages.

Settlement typology	Before 1800	1800 to 1970	1970 to 2000	2000 to 2012
Adjacent to a village or a small town	58.4	18.7	20.9	2.0
Adjacent to a hamlet (distance less than 50 m)	7.0	35.9	50.0	7.1
Not far from a hamlet (distance from 50 to 500 m)	7.6	29.3	60.6	2.6
Isolated in the countryside (distance more than 500 m)	7.9	41.3	46.9	3.9
Total	14.5	33.5	47.0	5.0

### 4.3 *Land use and landscape impacts.*

There might be an intuitive relationship between the number of buildings in the area and the artificial surface that can present some variability depending on the building characteristics and location. Moreover, a significant proportion of the soil can be occupied by various types of infrastructure whose presence is only partly linked to buildings. Comparing the artificial surface obtained through Corine land cover 2006 with the number of buildings in 2012 reveals an acceptable statistical relationship between the two sets of data. Using a logarithmic transformation of two variables, the coefficient of determination is equal to 0.83, reflecting the fact that the number of buildings can be considered a good proxy for land use changes. It follows that analysis of the dynamics of the number of buildings seems able to correctly represent how the landscape has changed over time. However, the type of statistical relationship estimated emphasises that a non-negligible fraction of the percentage of artificialised soil (approximately 17%) does not depend directly on the number of buildings. Moreover, the presence of a nonlinear relationship shows that increasing settlement density tends to decrease the consumption of soil for building.

The analysis of land use permits an estimation (albeit one that is not very precise) of the fraction of the surrounding area of the villas where agricultural landscapes still exist.

The data reported in table 6 emphasize the presence of considerable variability in the percentage of soil artificialised around the villas. In particular, the highest values are found at Villa Cornaro (74.4%), Villa Pisani-Plazzo (64.3), Villa Caldogno (58.9%), and Villa Badoer (51.0%). also It is also worth mentioning Villa Foscari, where artificial surfaces account for 48.9%. However, some villas still have a landscape that seems to have preserved, to a certain extent, its original connotation. This group includes Villa Zeno (9.5%) and Villa Saraceno (8.9%). Note, however, that percentage of artificial areas is lower than 30% for only seven villas.

In general, a large portion of the artificial areas is residential; in some cases, however, there are also industrial zones (e.g., Villa Forni Cerato and Villa Chiericati).

In Table 6, it is also interesting to note that there does not seem to be any relationship between the disappearance of the agrarian landscape near the villas and the year in which they were given protection.

This evidence again emphasises that only the villas' architectural features were protected, and the need to protect the landscape was seen as relatively unimportant.

With few exceptions, at the beginning of the 19<sup>th</sup> century, it was possible to have a wide view of cultivated land from both the front and the back of the villas (Table 6). In some cases, the view from the noble floor was limited by the "barchesse" built on the left and right of the villa (e.g., Villa Angarano-Bianchi, Villa Serego-Alighieri). In others, the view was partially obstructed by the buildings of the hamlets located near the villas (e.g., Villa Barbaro, Villa Cornaro, Villa Pisani de Lazara). However, in 19 cases out 24 the visual cone over the cultivated



Table 6. Percent composition of land use within 500 m from the villas and reduction of the visual cone from the beginning of the 19<sup>th</sup> century.

Villa	% of artificial areas in the radius of 500 m			Visual cone over the cultivated land at beginning of the 19th century (degree)				Visual cone over the cultivated land in 2012 (degree)				Reduction of visual cone from the beginning of the 19th century until 2012 (%)			
	Residential	Industrial or commercial	Other	Total	Radius of	Radius of	Radius of	Radius of	Radius of	Radius of	Radius of	Radius of	Radius of	Radius of	
					250 m	500 m	250 m	500 m	250 m	500 m	250 m	500 m	250 m	500 m	
Rustici Trissino	27.2	10.3	5.6	43.1	335	335	100	80	100	70.1	76.1	70.1	76.1		
Villa Almerico-Capra "La Rotonda"	19.9	3.2	3.1	26.2	290	290	255	160	255	12.1	44.8	12.1	44.8		
Villa Angarano-Bianchi-Michiel	23.2	7.3	2.7	33.2	295	275	185	110	185	37.3	60.0	37.3	60.0		
Villa Badoer "La Badoera"	39.3	5.3	6.4	51.0	80	80	60	60	60	25.0	25.0	25.0	25.0		
Villa Barbaro	17.9	0.7	3.6	22.2	265	345	230	165	230	13.2	52.2	13.2	52.2		
Villa Caldogno	36.2	14.9	7.8	58.9	295	230	0	0	0	100.0	100.0	100.0	100.0		
Villa Chiericati	8.6	7.0	3.3	18.9	335	315	295	225	295	11.9	28.6	11.9	28.6		
Villa Cornaro	53.9	7.4	13.1	74.4	245	245	70	35	70	71.4	85.7	71.4	85.7		
Villa Emo	26.9	3.9	3.8	34.6	235	225	215	170	215	8.5	24.4	8.5	24.4		
Villa Fornì-Cerato	16.4	12.3	7.3	36.0	275	245	185	40	185	32.7	83.7	32.7	83.7		
Villa Foscari "La Malcontenta"	34.1	8.0	6.8	48.9	300	300	20	0	20	93.3	100.0	93.3	100.0		
Villa Godi-Malinvenri	11.8	5.1	2.7	19.6	315	315	180	163	180	42.9	48.3	42.9	48.3		
Villa Gazzotti-Pagello	25.1	4.4	4.0	33.5	280	280	50	50	50	82.1	82.1	82.1	82.1		
Villa Piovene-Porto-Godi	14.2	5.1	2.8	22.1	285	285	200	190	200	29.8	33.3	29.8	33.3		
Villa Pisani-De Lazara	33.2	0.0	4.3	37.5	205	205	70	65	70	65.9	68.3	65.9	68.3		
Villa Pisani-Placco	48.3	7.7	8.3	64.3	0	0	0	0	0	0.0	0.0	0.0	0.0		
Villa Pojana	19.6	6.0	6.0	31.6	305	275	215	145	215	29.5	47.3	29.5	47.3		
Villa Saraceno	5.7	0.6	2.6	8.9	310	310	310	305	310	0.0	1.6	0.0	1.6		
Villa Serego-Alghieri	37.1	2.7	4.2	44.0	270	250	80	80	80	70.4	68.0	70.4	68.0		
Villa Thiene	32.0	4.5	6.3	42.8	270	245	80	45	80	70.4	81.6	70.4	81.6		
Villa Valmarana-Trissino	27.0	10.3	6.4	43.7	305	305	170	75	170	44.3	75.4	44.3	75.4		
Villa Valmarana-Bressan	28.0	4.9	4.9	37.8	295	280	70	60	70	76.3	78.6	76.3	78.6		
Villa Valmarana-Rossi	28.0	5.3	8.9	42.2	155	135	0	0	0	100.0	100.0	100.0	100.0		
Villa Zeno "Il Donegal"	7.2	0.8	1.5	9.5	255	235	255	205	255	0.0	12.8	0.0	12.8		

land in a radius of 250 from the villa was wider than 240 degrees. Also considering the territory encompassed in a 500 m radius, the situation was quite similar. In general, it is possible to state that the Palladian villas once had a wide view of the surrounding countryside. From the beginning of the 19<sup>th</sup> century until today, many villas have experienced a drastic reduction in countryside visibility from the villa both considering the closest and the furthest areas (Table 6). With reference to the closest area, the sight free of buildings in 10 villas out of 24 decreased more than 70% and in the further area, this threshold has been exceeded in 12 cases. Only in 7 villas was the reduction very low in the 250 m radius.

Today, views of cultivated land free of buildings that exceeds 240 degrees exist only at 4 villas in a 250 m radius and only at Villa Saraceno in a 500 m radius. In 9 cases, the original visual relationship between the Palladian villa and the surrounding rural landscape has been completely eliminated.

#### *4.4 A comparison with other villas*

To understand whether the landscapes around the Palladian villas has been protected more than those of other villas, I analysed the land use change around a sample of 55 other villas located in the municipalities of Maserà, Due Carrare and Casalsèrugo in Padua province and Mirano in Venice province. From an architectural and historical point of view, these villas can be considered “minor villas” and are somewhat representative of the large majority of the villas in the rural and peri-urban areas of the Veneto region. The data shown in Tables 7 and 8 confirm (to an extent) the trends observed for the Palladian villas. In the early 19<sup>th</sup> century, there were very few buildings near the villas with the exception of those located in the centre of Mirano. In this case, it is also possible to observe that with 95% probability, at the beginning of the 19<sup>th</sup> century the number of buildings near the villas was substantially independent from the settlement typology, with the obvious exception of those placed close to the major centre. The increase in building activities was not very intense from 1800 to 1970 (Table 7). On average, only 39 new buildings per villa were constructed, corresponding to 19.2% of all buildings present in 2012. Since 1970, an intense urbanisation process has involved a large majority of the territory in proximity to these villas. On average, approximately 136 new buildings were built. Building activity was particularly intense in villas that were originally located adjacent to a hamlet (185 per villa) or not far from a hamlet (142 per villa). In general, with the exception of the three villas belonging to the municipality of Mirano, more than 67% of the actual edifices were built between 1970 and 2000 (table 8). With respect to the Palladian villas, it is possible to see that the urbanisation process was partly different. Indeed, the building activity around the latter group was relatively more intense between 1800 and 1970 than in the following period. Ultimately, however, the number of buildings near the Palladian villas is not significantly different from the other villas analysed (225 versus 203) considering the four settlement typologies ( $P < 0.05$ ).

In addition, the percentage of artificial land in 2006 near the Palladian villas is

Table 7. Average number of buildings constructed in the four periods considered and artificial surface in 2006 according to the settlement typology in the 19<sup>th</sup> century in a sample of 55 villas in the towns of Maserà (Padova), Casalserugo (Padova), Due Carrare (Padova) and Mirano (Venezia).

Settlement typology	N.	Average number of buildings constructed by period					% of artificial area on average in 2006
		Before 1800	1800 to 1970	1970 to 2000	2000 to 2012	Total	
Adjacent to a village or a small town	3	59.7	149.3	233.0	10.0	474.3	82.7
Adjacent to a hamlet (distance lower than 50 m)	13	9.2	33.8	185.7	23.2	252.4	40.6
Not far from a hamlet (distance from 50 to 500 m)	10	10.5	44.5	142.0	10.9	210.6	36.0
Isolated in the countryside (distance more than 500 m)	29	6.4	27.9	102.1	8.6	150.9	23.3
Total	55	10.7	38.9	136.3	12.5	203.4	32.9

Table 8. Percentage of the average number of buildings constructed in the four periods considered by settlement typology in the early 19<sup>th</sup> century in a sample of 55 villas present in the towns of Maserà (Padova), Casalserugo (Padova), Due Carrare (Padova) and Mirano (Venezia).

Settlement typology	Before 1800	1800 to 1970	1970 to 2000	2000 to 2012
Adjacent to a village or a small town	12.6	31.5	49.1	2.1
Adjacent to a hamlet (distance lower than 50 m)	3.7	13.4	73.6	9.2
Not far from a hamlet (distance from 50 to 500 m)	5.0	21.1	67.4	5.2
Isolated in the countryside (distance more than 500 m)	4.3	18.5	67.7	5.7
Total	5.3	19.2	67.0	6.2

not different (with 95% probability) from that of the other villas analysed belonging to the same settlement typology, with the sole exception of the Montagnana and Fratta Polesine villas.

## 5. Conclusions

In 1992, the World Heritage Convention recognized the importance of protecting cultural landscapes because “they are illustrative of the evolution of human society and settlement over time” (Aplin, 2007; Mitchell et al., 2009, p. 19). The Pal-

ladian landscape belongs to the second cultural landscape category: the organically evolved landscape. However, following Antrop (2005), the Palladian landscape is a typical traditional landscape and its conservation should be actively pursued by Italian public authorities.

The research shows that in the early 19<sup>th</sup> century, the Palladio villas were located almost exclusively in a rural setting and were often near small villages composed of a few houses that typically were placed along the main roads. In some cases, it is possible to suppose that the villa was originally built near an existing village, whereas in others, it is likely that the village was built around the villa to host the farmers who worked the land owned by the lord of the villa. In addition, some artisan and proto-industrial activities grew in the proximity of the villas and were fostered by the landlord himself.

The research highlights that in almost all cases, at the beginning of the 19<sup>th</sup> century there were only a few buildings near the villas, a situation that often lasted until the 1960s. How could it be that tiny villages consisting of very few houses scattered in the countryside became full-fledged urban settlements in only forty years? What logic governed that process? Were the territorial and landscape modifications inevitable?

To answer these questions, it is necessary to analyse more in detail the various stages of settlement growth in Veneto. In the first phase, from the Second World War to the mid-1970s, the population mostly grew in the main urban centres and the peri-urban municipalities. At the same time, the population was decreasing in the rural areas (especially in marginal areas of the southern part of the region and in the mountains). From the second half of the 1970s to the second half of the 1980s, the population declined progressively in the major cities and grew mostly in the municipalities belonging to the first peri-urban belt.

This phenomenon paralleled the redistribution of industrial and artisan activities in the central part of the Veneto region (the so-called "Veneto Centrale"). Initially, these processes involved the territory located near the main roads and the major rural centres.

Starting in the second half of the 1980s, urban sprawl involved progressively secondary roads and country roads. At the same time, growth assumed the characteristics of so-called "jumping frog" or leapfrog development: new villages were created in the countryside or more often, there was development of areas located near the existing rural hamlets. Although this phenomenon is common to many other areas in Europe (Antrop, 2004; Antrop, 2005), in Veneto it took absolutely pathological forms: not only was there a progressive decentralization of the population from areas with higher density towards areas with lower density but also there was a very high fragmentation of settlements (Fregolent and Vettoretto, 2017; Vallerani, 2012).

As a practical matter, in the central part of the region, every small village engaged in parcelling and often even created small industrial and commercial areas (Cosgrove, 2006). This process of population decentralization and redistribution continued to the present so that from 2001 to 2011, for the first time the population grew more in the rural municipalities of the Veneto Centrale than the peri-

urban municipalities. Overall, from 1971 to 2011, in the municipalities that in 1971 had a population density lower than 300 inhabitants per square kilometre, the population increased by approximately 517,000 units, whereas in the municipalities that once had a density greater than 800 inhabitants per square kilometre, the population decreased by 132,000 inhabitants.

Only in rare cases did the small hamlets located next to the Palladian villas not become out-and-out urban settlements. In this process, very little attention was paid to the presence of the villas. In some ways, the most puzzling element that emerged from the research is that often it would have been possible to protect the Palladian landscape without affecting local communities' legitimate building needs. The public authorities were unable to implement land use and landscape policies to preserve the Palladian landscape while satisfying the needs of a rapidly growing economy. The causes of such failure are manifold.

First, one must consider that for a long time, there has been a substantial lack of landscape culture among the administrators and technicians who designed and adopted town master plans. The local authorities did not protect the Palladian landscape simply because they ignored its importance and cultural relevance. Moreover, the Italian legislation in this sector was inadequate to face the land-use change caused by the intense economic growth that began in the 1960s. Too many different public administrations were involved in the management of the territory. Before 1977, landscape policies were assigned to the Ministry of Culture while urban and land use policies were assigned to the Ministry of the Infrastructure and Public Works. According to this data, the regions were partially entrusted with both landscape and urban policies. The implementation of regional laws and master plans took a long time and simultaneously the national legislation often changed. The lack of coordination both between national and regional norms and between the regional, provincial and municipal plans made it difficult to adopt effective measures to protect the landscape of the Palladian villas. To an extent, this confusing and puzzling approach to landscape policies continues today. Luckily, in the last decade the Veneto region and some provinces seem to have become conscious of the importance of protecting the rural landscape surrounding the Palladian and other Venetian villas. Unfortunately, these important improvements in the regional legislation are sometimes opposed by local economic interests interested in developing and parcelling the remaining part of the landscape surrounding the villas.

Moreover, the measures adopted by the UNESCO site-management plan cannot be considered fully satisfactory. The agricultural land belonging to the World Heritage property of each villa are often very small, ranging from 14.7 ha (Villa Emo) to 0.38 ha (Villa Saraceno), limiting the possibility of directly controlling landscape transformation in the territory surrounding the villas. However, analysing the Site Management Plan of the *City of Vicenza and the Palladian Villas of the Veneto*, it is possible to see that in 10 cases out 24, the visual cone over the countryside free of modern buildings remains only partially protected by either Italian or regional legislation.

In conclusion it is possible to state that after a long period of time during which the preservation of the Palladian landscape was not on the Italian public

authorities' agenda, today those authorities seem to be devoted the appropriate attention to preserving this important part of Italy's cultural heritage. However, it is necessary for all of the remaining parts of the agricultural landscape that surround the Palladian villas to be protected from future transformation.

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