LUDWIG WINTER: ITS GARDENS AND ITS SIGN IN THE ITALIAN LANDSCAPING

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ABSTRACT
Ludwig Winter contributed to a new aesthetics of landscape architecture with design principles that took into account the flooding of plants from America, Asia and Africa. Its idea of garden was no longer a garden of flowers but a landscape of flowers equally what the Picturesque garden was inspired by the forest landscape and the countryside landscape. Winter started at La Mortola, in the property of Thomas Hanbury, to create different thematic gardens following botanical criteria and shaping spatial structure through the texture and the colors of exotic plants. The creative characters of the gardens of its gardens are represented by new types of gardens of the Mediterranean region which spread out in Liguria and in French Riviera in late decades of 19th and in 20th century: *jardins d'acclimation*, palm gardens, rock gardens of succulents and cacti, gardens-nurseries and sea promenades which became new models for the gardens of the winter season.

KEY WORDS
Garden design, phytogeography, cultural landscape.

LUDWIG WINTER IN THE EUROPEAN GARDEN CULTURE OF THE 19TH CENTURY

The work of Ludwig Winter can be placed in an innovative cultural context for the landscape architecture in which he had the opportunity to become a talented landscape gardener and to develop new ideas for garden design.

He studied in Potsdam, at the oldest School of Gardeners in Germany founded in 1823 and directed by Peter Joseph Lenné who was responsible for more than fifty years of the Royal Gardens of Potsdam. Formerly in Erfurt he was trained in the nurseries of this town, known for the development of horticultural production and for the "scientific

seeding" introduced by "the father of Blumenstadt Erfurt" Christian Reichart (Borchardt, 1968).

He received a theoretical and practical education based on the principles of garden design formulated by Lenné and Friedrich Ludwig von Sckell, the other one relevant landscape architect of the country. They contributed to the evolution of the Picturesque garden toward the Romantic garden orienting the landscape design to naturalistic solutions and avoiding the extravagances of the late baroque and eclectic gardens of 19th century full of *chinoiseries*, ruins and many others artificial elements scattered in the parks and gardens.

Winter probably knew the gardens of Charlottehof in Potsdam started by Lenné in 1818. The flat and wet area was transformed in a romantic park, the earth of the lake excavation was used for the creation of an articulated landscape of undulating hills, grassy plains, curving paths and meandering streams on both side of the central baroque axis which was conserve. The novelty was the introduction of exotic plants and trees planted in natural way to produce a continuous variation on the visual perception of the visitors. Despite the fact that Frederick William IV and Karl Friedrick Schinkel preferred the Italianate style consisting in a formal structure with a stylistic mixture of architectonical elements and plants introduced in Europe at this time, Lenné adopted a more naturalistic aesthetic. (Gothein, 1914)

John Claudius Loudon, the English expert in horticulture and landscape gardening, very famous for its *Encyclopaedia of gardening* (Loudon, 1822), who represented the garden culture in transition from the Regency period toward that of Queen Victoria reign, recognized the importance of Germany in the affirmation of the new trend of garden design called Gardenesque. He was moved by the interest for use of exotic plants and expressed these ideas in the handbook *The suburban gardener* (Loudon, 1838) in which he affirmed that the garden should be distinguishable from the surrounded landscape especially through the introduction of exotic plants. He was also interested in botanical gardens

and supported the plantation of new exotic trees in Hyde Park and Kensington **G**arden in London where the plants were labeled for the first time (Hunt, 1964, 238). The research of Loudon on trees and shrubs from America, listed and described in *Arboretum et Fruticetum Britannicum* (1854), was another reason to appreciate the German landscape architecture and the results obtained by specialized nurseries which successfully propagated plants coming from others continents. Loudon wrote that the work of Sckell and Lenné revealed that the principles of Gardenesque and its application were better understood in Germany than in Great Britain.

Winter, in the letter of presentation sent from Erfurt to Thomas Hanbury (3 nov. 1868), affirmed that he had both theoretical and practical knowledge in landscape gardening to "must go hand in hand if a garden shall be arranged as well as possible" (letter 3 nov. 1868, Erfurt, Archivio Hanbury, Busta 14. Fasc. 119 Istituto Internazionale Studi Liguri, Bordighera)

From the point of view of landscape architecture Winter contributed to the idea of garden regarded no longer as a flower garden but as a landscape of flowers equally what the Picturesque garden was inspired by the forest landscape and the countryside landscape.

At the end of 18th century the even faster flooding of plants from America, Africa and Asia determined the problem of integration of them into the garden.

In the work of Winter is manifest that the project has as main aim to display the individual beauty of the plants, the peculiar aspect of the canopy, foliage and flowering. Its botanical and horticultural education was a solid basis to identify the plants physiology, the correct soil composition, the distance of planting, etc., to create a harmonious arrangement of plants with an attractive appearance. (Fig. 1)

Its idea was that the combination of trees and shrubs should be inspired by the natural growth patterns to create "natural sceneries". (Stuard, 1988, 57).

Fig. 1. Hanbury Botanic Gardens, La Mortola (Ventimiglia), View from the Cycas avenue on the arrangement of trees and shrubs.

In 1866 in his apprenticeship at the botanic garden of Poppelstorf (Bonn), known for the collection of tropical plants, in the nursery of Antoine Chantin in Paris in 1867, and later in the nursery of Charles Huber in Hyères, he improved enormously his knowledge of exotic plants. He turned its interest to the *Cycadeaceae* and palms seen in the greenhouses when he visited the *Exposision universelle* in Paris.

Winter adopted in a limited way the theories of Subtropical movement, consisting in bedding schemes with plants with striking foliage pushed in beds of annual exotic flowers whit the effect of brilliant show of colors; his preference was focused on trees and shrubs. Therefore the garden design and maintenance are based on the needs of the plants.

He imagined the gardens of the Riviera as a part of an "oriental landscape" which inspired particular emotions in the visitors coming from the center and the north of Europe. (Fig. 2)

Fig. 2. Hanbury Botanic Gardens, La Mortola (Ventimiglia), the "oriental landscape" from the *loggia* of *palazzo* Orengo.

The French landscape architect Edouard André, author of *L'Art des Jardins. Traitè general de la composition des parcs et jardins,* in the chapter *Les plantations du midi* regarding the design principles of the Mediterranean gardens, explained that the "oriental character" of the new gardens in the Riviera was considered the most appropriate. Its peculiarity was due to the plants of South Africa, New Zealand, Central America which could develop there like in their natural environments (André, 1879, 654). The admiration of André for the exotic species concerned mainly trees, listed in the book, which can grow open-air, including several species of *Acacia, Casuarina, Cupressus, Eucaliptus, Ficus, Pinus,* considered suitable for the Mediterranean gardens.

He affirmed that the main innovative concept for the Mediterranean garden design should be expressed in spaces rich of plants which could exceed the beauty of the tropical gardens of that time where the size of leaves was more prominent than the variety and the color of

flowers. (André, 1978, 652) The spectacular effect, unknown before, was determined by evergreen shrubs and trees with a rich palette of green, but also to the unlimited and prodigious richness of color of trees and shrubs blossoming in all the seasons.

Plants that have adapted in contexts in which they found favorable conditions are now commonly considered originating in places where they were introduced and they distinguish plant landscapes with strong cultural value (organically evolved landscape, UNESCO, World Heritage Operational Guidelines 1992)

Winter at La Mortola, in the property of Thomas Hanbury, created different thematic gardens following botanical criteria and a new landscape aesthetic.

LUDWIG WINTER AND NEW TYPES OF MEDITERRANEAN GARDENS

The creative characters of the gardens realized by Winter are represented by new types of gardens which spread out in Liguria in late decades of 19th and in 20th century: *jardins d'acclimation*, palm gardens, rock gardens of succulents and cacti, gardens-nurseries, sea promenades which became new models for the gardens of the winter season.

Jardins d'acclimatation

The excellent training and skills in drawing, garden design, horticulture and botany of Winter were crucial to create at La Mortola an unique example of a botanical garden which combines numerous species of exotic plants. The experience at La Mortola was also surely essential to put in practice new horticultural techniques and to make experimentation on the growth of the plants. His idea of the *jardin d'acclimatation* didn't not mean a chaotic jungle, but a neat combination of plants controlled by the landscape gardener with a significance of beauty comprehensible to all, not only to expert botanists.

Winter developed with remarkable sensitivity ideas to create the "plants scenery" of other continents.

In the 1830s the plants cultivated in greenhouses in pots were placed in the ground and later in the Riviera this idea could be applied to entire parks and gardens.

To understand this peculiar aspect of Winter experimental design method is useful to compare the garden of the botanist Gustave Thuret created in 1857 at Antibes where he started to conduct acclimatization experimental tests on exotic plants from regions with hot tempered climate.

The Hanbury brothers had many suggestions from Thuret when they started to transform the terraced grounds and the plain area by the sea and they received many plants and seeds from this garden. (Mazzino, 1994, 38)

The garden of Thuret was planned as an arboretum, a peculiar type of garden to collect trees of others continents that originated in Great Britain in the second half of 18th century. (Boursier-Mougenot, Racine, 1987, 100). The plants are grouped together, more or less densely, primarily for botanical interest; landscaping is secondary (Hunt, 1964, 63). The garden is structured to consider each plant as an individual which can get a strong feeling of monotony for inexpert persons. (Stuart, 1988, 184).

Winter try instead to integrate the botanical aspect with the aesthetic perception of the richness of the shapes, textures, colors of trees and shrubs, based on his ability to observe the growth of plants. The garden is transformed from a "catalogue" of plants in an interpretation of different landscapes. (Boursier-Mougenot, Racine, 1987, 40). In this sense he anticipated phytogeographycal criteria for planting.

The prolonged absence of Thomas and Daniel Hanbury gave him a considerable freedom in the project of the new types of gardens at La Mortola. In 1872 we wrote to Thomas forty-five letters, in 1873 the letters were thirty-four on the progress of hardscape works, the plantation of new plants, the construction of reservoirs, started in 1871, but also on the agricultural aspect of property. In the correspondence he informed the proprietor about the decisions taken using sketches and plans.

The collection of genera started very early; in October 1869 he

planted twenty-five species of *Pelargonium* (letter 24 Oct. 1868, Mortola, Archivio Hanbury, Busta 14, Fasc. 119). In 1872 he planted two-hundred roses, "particularly vigorous" "thirty-three different varieties chosen among those flowering richly during the winter". From the letter we know that "thirty were in borders around Palazzo and the other ones in conspicuous spots near principal walks" (letter 12 Sept. 1868, Mortola, Archivio Hanbury, Busta 14. Fasc. 121 Istituto Internazionale Studi Liguri, Bordighera). In two long letters he described the old varieties of Liguria olive trees and the cultivation techniques (letter 24 July 1872 and letter 11 Aug., Mortola, Archivio Hanbury, Busta 14. Fasc. 121 Istituto Internazionale Studi Liguri, Bordighera). Between 1871 and 1872 he completed the *Quattro Stagioni* area with succulent plants, the new road between the North entrance of the garden and the *palazzo* Orengo along which were planted tree and shrubs at that time considered very rare.

The very fast creation of botanical collections of many species of plants was possible for the correspondence of interest between Daniel and Thomas Hanbury and Ludwig Winter for plants of China, Japan, Cape of Good Hope and Central America, not limited to a few plants, that prompted them to collect the more large number of species of the various botanical genera.

In the *Quattro Stagioni* area he created an "oriental scenery" of *Cactaceae, Agavaceae, Euphorbiaceae* and *Aloe* spp.

Winter was capable of imagining the final result of new road from the entrance to the *palazzo* Orengo which captivated the visitors and invited them to discovery a landscape and a garden where the plants are the main protagonists.

In the plain area he replanted the old vineyard, planned new paths covered by pergolas, a typical feature of the gardens of Liguria with various genera of plants which allowed walking in the shade.

In 1875 Winter lived a garden almost completely realized in the layout and in the botanical collections.

The collaboration between Thomas Hanbury and Ludwig Winter

produced an interesting fusion between the natural and agricultural landscape on the one hand and the exotic botanical garden on other. They were confronted with the difficult challenge of implementation of a *jardin d'acclimatation* where exotic species were collected in order to give an idea of the landscapes in which they grew spontaneously, adapting the British model of Picturesque garden to the Mediterranean landscape.

Palm gardens

The reputation of Winter is connected with the palms; the most interesting aspect of his work was the spread of palm trees in the coastal landscape of Liguria in the 19th and 20th century and the creation of palm gardens that became the symbol of the seaside resorts.

In northern Europe countries the attraction of palms on lovers of botany and gardens promoted the propagation of the palm houses, large greenhouses for tall trees, to allow visitors of botanical gardens and *jardins d'hiver* the possibility of admire these plants also in aesthetic terms.

In Germany the passion for the palms was widespread, in 1818 Sckell in the Nymphenburg park built a large greenhouse to cultivate palms, in 1832 Frederick William III in Pfaueninsel Park built the Palmarium, a greenhouse for palms, in 1869 a palm house was built in Palmengarten of Frankfurt for the rich collection of the Nassau duke.

Winter, like others Germans, was fascinated by these plants so singular for trunk, canopy and leaves. The possibility of being in contact with so particular plants identified places particularly suitable for recreation and entertainment.

The palms in Bordighera and Sanremo were one of the features of the agricultural landscape before the discovery of the Riviera by foreign visitors who called Bordighera "city of palms" for the dissemination of palm groves in the Sasso valley and the Arziglia hill. (Fig. 3).

Fig. 3. Bordighera, the palm groves of Arziglia hill.

According to local tradition palms were imported by Egyptian hermit Ampelio in Bordighera in the fifth century; perhaps the date palms were spread by Saracens who climbed the hills and abandoned the seeds of dates used as nourishment. In the *Statuti di Sanremo* (1435) the palms are mentioned together with lemons, cedars and others citruses as a local agriculture production (Calvini, 1983). The palms were cultivated to obtain ornamental foliage for export in the countries of central and northern Europe. The production of palm leaves increased considerably in the 18th century until the second half of the 19th century.

At Bordighera the technique of cultivation in the palm groves was similar to that of the oases of North Africa; the canopy of palm trees shaded the fruit trees and vegetables. From the springs and the streams of the Sasso valley the water was collected in small canals connected to the *béodo*, a sort of aqueducts constructed in 1470, which watered the orchards in the terraces and fed water to the village. Along the aqueduct a path linked the coastal village with the inland small village of Sasso and the cultivated terraces. The *béodo* and the surrounding palm groves formed a great attraction for the first tourists who had the impression of being in an African landscape then difficult to reach by most visitors.

Winter chose two of the most remarkable places in terms of landscape for its nursery gardens located in the Sasso valley and nursery of Madonna della Ruota hill in the west part of Bordighera. He respected the character of the agricultural landscape retaining existing palms and introducing the cultivation of roses, succulents and acacias.

Winter was an innovator in the respect of local tradition. The millenarian practice of mixed cultivation of vegetables and fruit trees was replaced by the cultivation of ornamental plants under the crowns of palms and this choice contributed to transform the agricultural landscape in a new cultural landscape, result of botanical and landscape design experimentations.

Between 1870 and 1890 he favored the spread of palm trees from Bordighera to the Gulf of Tigullio and the Gulf of La Spezia and the affirmation of the Riviera style which quickly became established in the early winter resorts. The palm gardens from the Western Riviera spread out in the entire coast and in other parts of Italy. He experienced growing in pots, for the green interior and transport of large palms.

He inserted in the catalog of its nurseries of 1909 fifty botanical species of palms that included several species of *Butia, Phoenix, Sabal*, etc. In fact, in addition to the considerable variety of species, large plants were also available *(Brahea armata, Livinstona australis, Jubaea chilensis, Phoenix reclinata, Trachicarpus fortunei, Washingtonia robusta,* etc.) (Viacava, 1996, 88).

Winter realized the first palm garden at La Mortola on the upper part of the property along the new avenue. He transformed the terraces below the new entrance staircase in slopes connected to the curves of the avenue coming down toward the *palazzo* Orengo. (Mazzino, 1990, 290). The construction of the main avenue and areas adjacent to it demanded complex earthworks that adapted to the strong steepness of the hill in which he inserted many palms (Mazzino, 1991, 29).

The effect that Winter had expected was to give the impression of being in a tropical paradise; descending toward the sea it could admire the evergreen leaves of the palm trees, climbing up the size of columnar trunks. (Fig. 4)

He obtain from Thomas Hanbury the permission to buy a considerable number of species including *Phoenix dactilifera, Chamaerops humilis, Phoenix canariensis, Washingtonia filifera, Butia capitata, Cocos botryophora, Cocos flexuosa, Jubaea chilensis,* some of them received as a gift from the director of the *Jardin de Plantes* of Paris (Mazzino, 1994, 90). Among the palms Winter preferred *Phoenix canariensis* then just introduced in Riviera; he was the first to use a great number of these species. The more compact structure and wider pinnate leaves and numerous oval fruits were considered very ornamental for parks and gardens.

Fig. 4. Hanbury Botanic Gardens, La Mortola (Ventimiglia), the palm garden in the upper part.

Fig. 5. Bordighera, villa Bischoffsheim-Regina Margherita, the main avenue.

In some cases Winter planned single-topic palm gardens in which he also inserted *Cycadeaceae,* but in general its gardens were characterized by a large variety of other species. (Mazzino, 2006, 295) (Fig. 5)

The palm gardens designed from Winter were in the villas of Charles Garnier and Bishoffsheim banker at Bordighera became a model emulated in Sanremo, Ospedaletti, Alassio.

In the Ventimiglia public garden at the mouth of the river Roja, funded by Thomas Hanbury, Winter planted different species of palms. The main avenues are flanked by rows of *Phoenix canariensis* considered the most suitable for the canopy and the trunks and others rare palms.
In the parks of new hotels of Bordighera (Hotel d'Angleterre, Hotel de Bordighera, Hotel Angst, Grand Hotel des Iles Britanniques) the palms were the leading pants of the *jardins d'acclimatation*. The iconographic documentation shows that the dense vegetation of palms, with their crowns of leaves, constituted a visual screen to reduce the visual impact of extensive facades and the impressive volumes of the buildings.

The fabulous "East" was revived in gardens where exotic palms were gathered in groups, silhouetted isolated within the lawns of parks lined the balustrades of the terraces and arranged in rows avenues and sea promenades. (Mazzino, 1998, 31)

The sea promenade of Sanremo, called Corso Imperatrice to remember the gift of trees to be planted along the new path by the Tsarina Maria Alexandrovna, wife of Alexander II, was equipped for the meeting place of tourists and for their entertainment with a sophisticated urban design consists of kiosks for music and various species of palm trees among which W*ashingtonia filifera, Phoenix dactilifera, Phoenix canariensis, Chamaerops humilis, Erythea edulis, Butia capitata*. (Fig. 6)

His experience in the palm cultivation put into effect the creation of palm-lined sea promenades in Hyères, Cannes, Menton.

The coastal strip was transformed by selecting several species of palms in public gardens, parks and gardens of villas and hotels of Bordighera, promenades of Sanremo and Rapallo, tree-lined streets of

Fig. 6. Sanremo, corso Imperatrice, post-card.

Bordighera (Corso Italia), Sanremo (Corso Mombello), Ospedaletti (corso Regina Margherita) and Nervi (Viale delle Palme) (Mazzino, 2006, 243).

In Liguria the gardens with the highest concentration of palm trees are the Hanbury Botanic Gardens in Ventimiglia, the Winter gardens nurseries at Bordighera and the Nervi parks in Genoa (Paola & Minuto, 1997, 15).

Rock gardens of succulents and cacti

The German botanist Otto Penzig, friend of Thomas Hanbury, observed that the scarcity of water in the Mediterranean region is extreme and is, especially, in the arid soil of La Mortola one of the most serious obstacle for the cultivation. In summer the soil is three, five months without water; and despite the provident institution of large reservoirs, tanks and a system of channels conducted throughout gardens, it is

impossible the cultivation of many kinds of plants, and for others it is made extremely difficult (Penzig, 1883,6).

These observations are at the origin of the idea to realize gardens with plants that are resistant to aridity with interesting results from the aesthetic point of view.

From initial disappointment in seeing the plants just planted suffering or dried Thomas Hanbury and Ludwig Winter came to the acceptance of this condition and limits imposed by the environment and drew new ideas on garden design.

They created a new type of rock garden, which until then had been conceived for the alpine flora and rock plants that could be seen on the ruins, and obtained impressive results, imitated in other gardens like the Jardin Exotique in Monaco.

The paths between the rocks, the cliffs, rock faces, rather than be a limitation in design, became the main elements of exotic rock garden.

Succulents have adapted to survive in environments where water is not constantly available; the water can be abundant in certain periods of the year or in same restrict spot in which there is the presence of underground waters.

Cacti and succulents appeared to be suitable for this purpose, in the first few years they begin to introduce plants that had only been tried in a few gardens of the French Riviera. The most of plants planted at La Mortola are from the southern part of Africa e the succulents are from the central America where they have developed a successful adaptive strategy.

The brothers Hanbury favored especially aloes and agaves, so much so that in a short time managed to collect the most complete collection in existence then. (Mazzino, 1994, 88)

In 1871 Daniel Hanbury gave instructions to Ludwig Winter for the plantation of the first *Cereus peruvianus* in the terrace behind the palazzo which was completely transformed into a succulent plant garden.

In that year Winter was commissioned to design the slope above the Topia - the pergola which cross longitudinally the garden - an area dedicated to these plants which stretches along the north-east slope.

Winter in the Quattro Stagioni area brought together those genera of plants that Daniel had planted here and there.

Experimentation led to completely new plant arrangements, such as aloes, yuccas, dragon trees association. The prickly pears were associated with *Mesembrianthemum*, among the succulent plants were planted *Euphorbia*.

In the cultivation he had several maintenance problems; the difficulty of eliminating weeds - since many species have thorns - was reduced covering the rocky terrain with ground cover plants.

The realization of raised beds such as that of the terraced front of the *palazzo*, the modeling of the ground as in the Quattro Stagioni area and the insertion of stones between the plants ensured the drainage and restrained humidity at night.

The roots of plants growing in the soil held between the stones consolidating the steep slopes.

The observation of the surrounding landscape formed by dry stone walls of the terraces colonized by the caper and the valerian and several ferns was a source of inspiration for the creation of special vertical rock gardens.

In the interstices of the walls African *Pelargonium* and other plants were inserted to be included creating fragrant and flowering vertical gardens.

In the *Sketch for new stairs above Topia*, (1871, Archivio Hanbury, Busta 14, Fasc. 120) Winter draw a section, the plan and a sketch of Quattro Stagioni area; the terraces and the olive plants were maintained, roses and wines covered the pergola, on the sides of the stairs he placed small borders for roses, the round space on the top of circular stairs was organized in a bed with rocks and succulents with a seat in front the slope. At the center he placed a basin of water with

Cyperus papyrus, *Alisma plantago-aquatica, Thalia dealbata* enclosed by rockworks. The slope was modeled in the shape of vegetable amphitheater with stones and agaves and on the two sides *Musa spp*. and other tender plants. (Fig. 7)

Fig. 7. Hanbury Botanic Gardens, La Mortola (Ventimiglia), the succulent plants amphiteater in the Quattro Stagioni area.

Many Mediterranean gardens are on the rocky soil, Winter didn't consider this fact constraint, but he drew attention to the potential of the natural rocks, furthermore he considered that the succulents are extremely useful in places where there is tiny soil. Many succulents grow in colorful cushions and they arrange their leaf rosettes to cover the ground.

The innovative idea of groping plants in this way it was later applied to Madonna della Ruota nursery; the plants were not to considered as isolated individuals for the taxonomic classification, Tithe grouping of plants in masses was intended to present to customers models of xeriscape

garden.

In the Charles Garnier garden in Bordighera Winter inserted in the terraces of the ancient palm grove compact masses of agaves, prickly pears, aloes, he gave also to the garden the "Moorish character" that the architect had wanted for the villa with the insertion of loggias and panoramic tower.

Gardens-nurseries

The interest in botany and gardens was one of the most popular amusements of the British and German guests of the Riviera; in the second half of the 19th the owners of villas and hotels change the coastal landscape with the construction of parks and gardens for botanical rarities.

Winter was able to target the green areas of the winter tourist town that it traced in part of the garden city model then adopted for its spas and the tourist centers. He organized the cultivation of plants in his nurseries to meet the demanding customers requiring rare plants, evergreens and flowering.

The activities were planned according to advanced criteria; he used the more recent techniques of cultivation and hybridization; also marketing was very accurate; the production was presented through plants lists in Italian and German with photographs of remarkable quality of Jean Scotto that constitute an irreplaceable testimony of these gardens-nurseries unfortunately disappeared.

He introduced new ideas in the nursery marketing, in effect he conceived its nurseries as a permanent exhibition of plants to show to the clients the final effect of the plantations and to propone planting schemes that that could be replicated in the gardens; the plants were harmoniously integrated in the ancient palm groves with the inclusion of different species from *Phoenix dactilifera* respecting the terraces, pergolas and tanks of the historic agricultural landscape. (Fig. 8).

Fig. 8. Bordighera, via Lodovico Winter, some remains of the Vallone del Sasso garden-nursery in a private garden.

The spatial structure of Winter gardens-nurseries is difficult to understand because of the severe destruction they suffered in the 20th century, some elements can be identified through historical images and descriptions, but is not possible to have a complete idea of the landscape gardener project.

The garden-nursery of Madonna della Ruota, the best known of those created by Winter in Bordighera, was located next to the old church of Madonna della Ruota and had been used as a setting for some of the most evocative pages of the novel *Il dottor Antonio* (1850) of Jacopo Ruffini. The full realization of the nursery garden took thirty years of work (Taggiasco, 1952, 25).

The images show the original layout, overlooking the sea, and therefore often depicted in postcards of that time.

The climate more temperate than the La Mortola favored engraftment of palm trees, mimosas, araucarias, pines, magnolias inserted between the olive trees, date palms and brooms.

The ancient palm grove was turned into a demonstration garden for visitors with remarkable collections of shrubs, conifers, palm trees and mimosas, in which each plant was labeled for the recognition of botanical species. Plants were arranged like in a garden to highlight the beauty of the new crop species; they were not aligned and grouped according to species, but mixed and arranged in groups among the existing trees. The steep ground was crossed by paths bordered of rock gardens coming up the hill; the main route descended below and reached the ancient well used in the past by the peasants of Bordighera, surrounded by groups of palm trees, which inspired the German poet Victor Scheffel.

The wisteria pergolas faced the sea with panoramic views on the coast open to the amphitheater in which stood the village of Ospedaletti and the promontory of Capo Nero; on top of the hill were the pine forest and the palm grove; over the cliff a garden of Mediterranean and exotic shrubs.

Two concentric pergolas of large size occupy the space divided into

a paved area and in a semicircular water basin; along the pergolas were inserted pots for vegetation consisting of flowering shrubs that formed pillows along the edges of the water basin and climbing plants. The ancient palm grove was preserved, tall palm trees were transplanted, the slopes were covered with anemones, carnations and lush rose bushes.

Winter knew persuade customers about the landscape quality objectives that they would reach with the purchase of its plants. The goal was to show to the customers how they could associate different species of plants, with a "ready-effect" as we say today, offering direct experience through observation and appreciation of the beauty of the plants and how the creation of gardens could be included in the costs of construction of new houses enhancing the value of the properties.

CONCLUSIONS

The contribution of Winter within the garden design was to make accessible to all exotic plants that were reserved to the collections of wealthy foreign tourists, the transformation of nurserymen in professionals capable of directing the market and meet the designers' requirements, a new artistic language, the deciduous trees and conifers that had changed the face of British and German parks, replaced palms and sub-tropical plants with new colors and shapes.

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