

ARCHITECTURE HERITAGE and DESIGN

Carmine Gambardella

XXI INTERNATIONAL FORUM

Le Vie dei
Mercanti



World Heritage and Dwelling on Earth



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Carmine Gambardella
WORLD HERITAGE and DWELLING ON EARTH
Le Vie dei Mercanti
XXI International Forum

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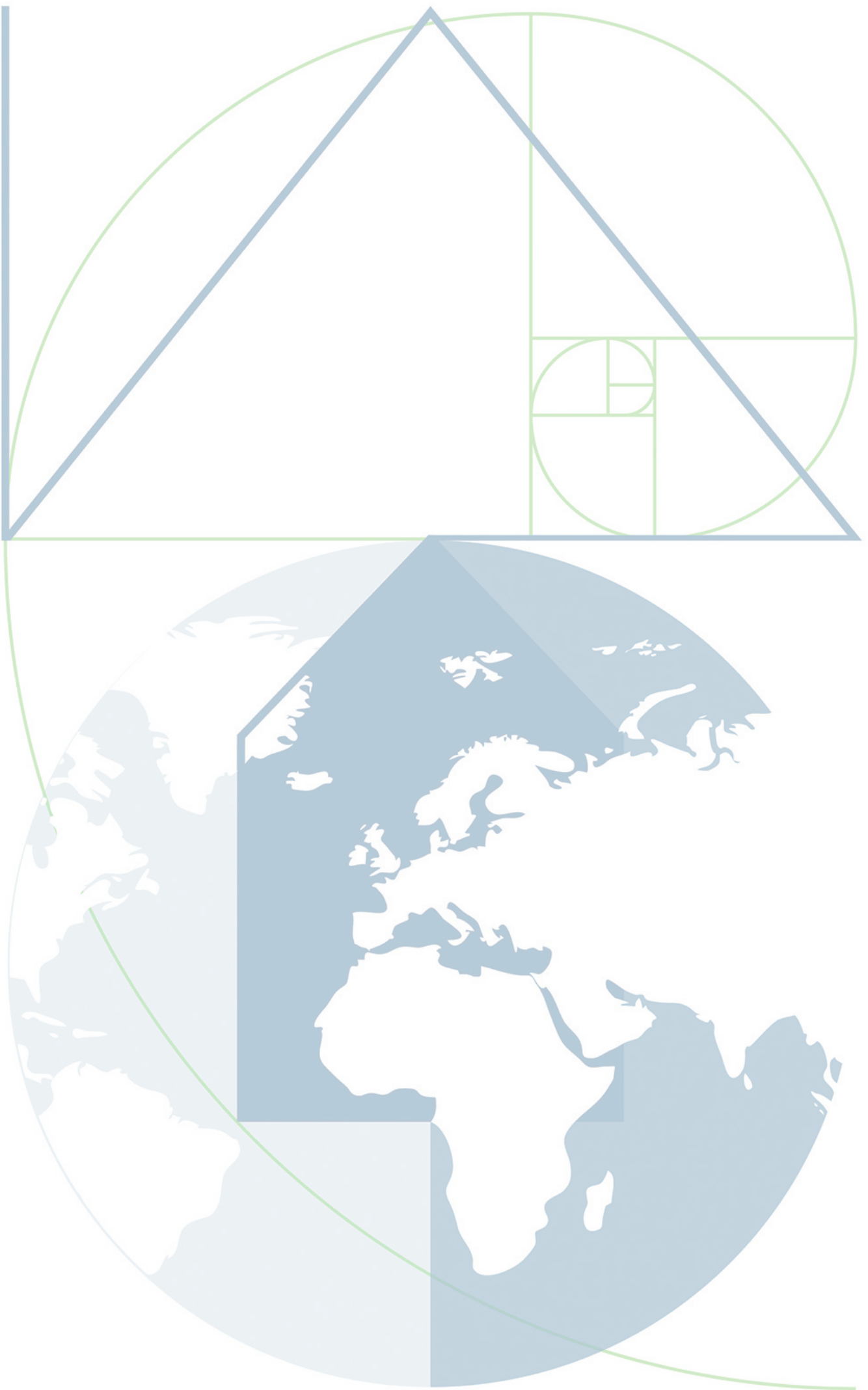
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Scholars has been invited to submit researches on theoretical and methodological aspects related to Smart Design, Planning and Technologies, and show real applications and experiences carried out on this themes. Based on blind peer review, abstracts has been accepted, conditionally accepted, or rejected. Authors of accepted and conditionally accepted papers has been invited to submit full papers. These has been again peer-reviewed and selected for the oral session and publication, or only for the publication in the conference proceedings.

Conference report

200 abstracts and 330 authors from 30 countries:

Albania, Australia, Belgium, Bosnia and Herzegovina, Brasil, Bulgaria, California, Chile, China, Cipro, Cuba, Egypt, France, Germany, Greece, India, Italy, Japan, Jordan, Malta, New Jersey, New York, Poland, Portugal, Russian Federation, Serbia, Spain, Texas, Tunisia, Turkey

XXI FORUM WORLD HERITAGE and DWELLING ON EARTH

Abitare la terra! Questo è l'obiettivo essenziale, sintetizzato dalla denominazione della conferenza, cui abbiamo continuamente teso con i Forum "Le Vie dei Mercanti" lungo gli ultimi ventuno anni. Ancora oggi, questa rimane per noi la stessa prospettiva di lavoro. Un intento da perseguire con ancor più forte convincimento e con persino maggiore efficacia, dal momento che tutti noi siamo coscienti di trovarci in uno stato di emergenza con lo scenario drammatico aperto dai cambiamenti climatici.

Quindi, come agire adesso rispetto a questo imperativo globale?

Per prima cosa, mi piacerebbe partire dal lavoro che abbiamo fatto in tutti i Forum annuali, dagli approfondimenti interconnessi sulla transizione ecologica, la contaminazione, il patrimonio culturale, i disastri ambientali, per ciò che concerne il loro impatto sul World Heritage. In tale modo, la preoccupazione per l'abitabilità della nostra terra ha non solo integrato capacità, esperienze, buone pratiche di ricercatori e accademici, ma ha anche creato una comunità scientifica con provenienze da ogni parte del mondo che fosse in grado di interagire in modo interdisciplinare. Ci siamo fondati sul convincimento che un'azione collaborativa richiedesse, oltre una prassi di controllo, una profonda fiducia nella capacità umana di riuscire a difendere il proprio patrimonio ereditario rigenerandolo con forte determinazione. Questa è la migliore strategia per trasmettere al futuro i beni che ci ha consegnato la storia e che noi dobbiamo difendere. Lo scopo perseguito è ovviamente non solo di quello potere agire in anticipo rispetto a un disastro ambientale, ma anche di promuovere nel nostro mondo un processo progettuale in grado di ridisegnare la relazione tra ciascun uomo e l'ambiente in cui vive.

Ribadendo in ciascun Forum che "il futuro è un eterno presente", abbiamo continuato a guardare a ciò che verrà con ottimismo, con la speranza che, cominciando sin d'ora con azioni effettive e coscienti, noi potessimo porre le basi per il mantenimento di un equilibrio globale. La recente pandemia ha mostrato come, al di là delle strategie resilienti per neutralizzare processi produttivi che si sono mostrati ostili al benessere ambientale, dovessimo ricercare una nuova omeostasi nel nostro ambiente abitabile. Solo lavorando insieme in questa direzione, potremmo efficientemente riadeguare via via le reazioni, in modo da neutralizzare persino gran parte degli impatti ambientali nella ricerca di un nuovo equilibrio.

L'argomento del Forum di quest'anno invita i ricercatori a riflettere sulle buone pratiche implementate con progetti operativi, strategie o proposte progettuali. Obiettivo principale è contrastare il processo che ha portato le persone e l'ambiente in cui vivono alle condizioni inaccettabili che riusciamo fisicamente a individuare con chiarezza nel degrado territoriale e paesaggistico. Inoltre, bisogna pensare a nuove strategie per un progetto difensivo che possa realmente dimostrarsi efficace. Ma ciò che è ancora più importante, una volta resosi conto dell'urgenza della situazione, è che l'enorme responsabilità ambientale ci impone di non fare affidamento su soluzioni semplicistiche. Non c'è alcuna semplice prestazione tecnologica che da sola possa essere assunta tout court come soluzione definitivamente ottimale, ma bisogna intervenire attraverso una dinamica osmotica di conoscenze e tecnologie. Solo attraverso un processo di conoscenze continuo le persone possono misurare lo stato del loro benessere e allo stesso tempo agire come garanti della qualità terrestre. Una nozione di "misura", fondata su una dinamica perpetua di conoscenza, può mostrarsi affidabile promuovendo nuovi modelli di sviluppo fondati su un rinnovato Umanesimo.

Prof. Carmine Gambardella
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President and CEO of the Benecon University Consortium
UNESCO Chair on Landscape,
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XXI FORUM WORLD HERITAGE and DWELLING ON EARTH

Abitare la terra! Dwelling on Earth! That is the essential goal, synthesized by the title of this conference, towards which we have been working with “Le vie dei Mercanti” forum over twenty-one years. It still remains today the same perspective for us. An intent to be pursued with greater commitment and providing even higher effectiveness, as we all are now aware of being in an emergency with the dramatic scenario opened by climate change.

Therefore, what are we to do now with respect to this global imperative?

First, I would like to start from the work we have done in every annual forum, the interconnected focus on Ecological Transition, Contamination, Legacy, Knowledge and Disaster, as regards their impact on World Heritage. In that way, the concern for the habitability of our Earth has not only integrated skills, experiences, good practices of Scholars and Academics, but has also created a scientific community from around the world for discussing such multidisciplinary topics. We had the conviction that collaborative action requires not only practices for control, but also a reliance on human ability to ever succeed in defending his patrimonial value with the strong determination to re-design our everyday places. This is the best way for transmitting to the future the values that heritage has passed on to us and we must protect. The pursued goal is obviously not only to act in advance with respect to an environmental disaster, but also to promote in our world a design process in order to re-design the relationship between each man and his living environment.

Emphasizing in each forum that for us the future is as an eternal present, we have continued to look at the future with optimism, with the trust that, beginning now with effective conscious actions, we can put the basis for maintaining a global equilibrium. Recent pandemic has shown that, apart from resilient strategies for neutralizing productive processes which showed to be hostile to the environment, we need to search for a new homeostasis into our habitable environment. Working towards this direction, we could effectively adjust responses to environmental changes, in order to neutralize even most of their consequences for reaching a new equilibrium.

So, the topic of this year’s forum invites researchers to reflect on good practices implemented with operative projects, design proposals or strategies. The main goal is reversing the trend which has led people and the environment in which they live to the unacceptable conditions we can physically recognize into territory and landscape decay. Then, we must think about new strategies for an adequate defensive design which can ultimately provide an efficient aid. But which is more important, once we have suddenly become aware of the urgency of the situation, the new enormous environmental responsibility requires us not to rely only on simple solutions. There is no easy technological performance to be assumed as a definitively optimal solution. Only the continuous practice of a “measure” that has been built upon continuous education process may give reliance; people, only with an adequate formation, can measure the state of their wellness and at the same time they can act as the guarantors of earth quality, for a new development model based on a renovated Humanism.

Prof. Carmine Gambardella
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XXI INTERNATIONAL FORUM

18 • 19 • 20 May 2023 Napoli Capri

Vanished landscapes. New scenarios for dwelling on earth with the awareness of the past for a sustainable future. The ancient Vallis regia, now Lake Barrea

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Abstract

This contribution will document the transformations that have taken place in a territory which, after man's intervention, has been flooded with water, changing its configuration from a valley to a lake. The objective is to disseminate and defend the history of a territory as a common asset and resource for sustainable development. The case in question is the ancient Vallis regia in the province of L'Aquila, close to the town of Barrea. In 1951, when a dam was built across the River Sangro, the valley was flooded with the river's waters, turning it into an artificial basin used as both a reservoir and to produce electricity.

There are many, incisive interventions of this kind on our planet; they have not only redesigned a territory, but also changed the way indigenous populations dwell on earth. The aim of the contribution is to find evidence of this vanished landscape and document how such a radical environmental transformation has not only influenced the life of the inhabitants, their culture, and traditions, but also created new scenarios. In fact, we believe that understanding the history of a territory is the key tool we need to safeguard it; a precious resource to be transmitted to future generations in order to achieve economic, environmental and above all cultural sustainability.

Keywords: vanished landscapes, Vallis regia, Lake Barrea, territorial information systems

1. Introduction

The landscape has, for many decades, been considered as representing the identity and sensitivity of a territory whose cultural values consolidate and stratify over a period of time, thus confirming its dynamic nature based on a dialectical debate between conservation to protect the past and social and environmental transformations. This is why an analysis of these processes - visible in the layout of the landscape everywhere - is considered a tool well-suited to understanding not only the way in which man has inhabited the earth, but also to what extent these transformations and environment, social and cultural changes have helped draft new sustainable development strategies [1]. The landscape is a crucial historical document, the unitary expression of transformations and evolutions.

A critical review and documentation of the landscape helps recover the memory of a relationship that over the years man has successfully established with his territory. We can therefore talk of cultural landscapes that make up the identity heritage of a place. Based on these premises, this contribution proposes to establish the historical and cultural identity of the current landscape of the higher reaches of the Sangro river where hydraulic engineering has modified the natural and built environment. In order to encourage an integrated territorial enhancement, the study examined the artificial Lake Barrea and its ancient valley, considering it as a single environmentally-enriching territorial asset [2], and proposing an integrated study model based on multiscale documentation which will be summarised and disseminated as part of territorial informative systems.

All forms of representation are thus believed to not only play a fundamental role in the iconographic documentation of a site, but also input into the dissemination of knowledge as a first step towards the

protection and safeguard of what still remains of the former valley as a common territorial asset. For this paper a Geographic Information System has been designed, the results of which will hopefully be implemented in the future; the project gathered local and web data regarding basic information concerning the territory of the higher reaches of the Sangro river, and then enriched it with historical data taken from bibliographical and archival sources. Using the territorial database of the Abruzzo region (DBTR) and the digital elevation models published on the web [3] it was possible to develop a territorial elevation model (DTM) of the area of the Vallis regia and Lake Barrea, both before and after the creation of the artificial lake.

2. Historical-territorial framework of the Vallis regia

The territory of the old Vallis regia [4] corresponds geographically to the upper reaches of the Sangro river, between the towns of Opi and Barrea, surrounded by the Meta mountains and Mount Greco, and urbanised by small mountain hamlets including Villetta Barrea and Civitella Alfedena. The name Vallis regia (valley of the king) appears for the first time in the “Dialogues of the miracles of St. Benedict” written by Pope Victor II, abbot of Montecassino between 1076 and 1079; the king is refers to is probably King Ludwig II who passed through this area during that period [5]. In 1951 the layout of the valley changed radically when an artificial lake was built, flooding the valley and turning the mountain landscape of the hamlets of Barrea, Villetta Barrea and Civitella Alfedena into water landscapes. The lake had an enormous impact on the local economy; it caused the loss of fertile land and production facilities as well as traditional agricultural and pasture activities; it did however encourage the development of the tourist industry on which the local economy is still based.

Before the Barrea valley was turned into a lake it was crossed by the paths taken by transhumance herds of livestock who were moved during the winter to pastures in Apulia; they started from Opi and Civitella Alfedena at a higher level compared to the bottom of the Sangro valley, passed along the stretch from Pescasseroli to Candela and then continued down through the Colle della Croce towards Alfedena and then on to the Molise region and finally to Apulia. Vice versa, as reported by Terentius Varro in *De Rustica*, in the summer the livestock headed back to the fresh pastures of the Abruzzi. We know that for many centuries the tratturi, the old rough ‘wool’ roads, i.e., grassy paths used for the transhumance of livestock, especially sheep, were the main paths/roads in lower Abruzzo.

The territory of the Vallis regia was inhabited as far back as the prehistoric era by hunters of the Upper Paleolithic period who used grottoes and rocky outcrops as places where they could find shelter; during the Neolithic period these caves were later occupied by shepherds and farmers. We know this thanks to the archaeological remains found in the Graziani grotto close to Villetta Barrea [6]. As the Apennine civilisation began to emerge (1400 – 1300 BCE) sheep farming developed and, as a result, transhumance; the latter was initially “vertical”, between valley pastures and mountain pastures, but in the same area; it then became “horizontal”, characterised by longer journeys which, following the natural lie of the land and ancient prehistoric paths, spread from the internal area of the Apennines to areas closer to the sea [7]. During the Imperial period the economy based on transhumance (towards what is now known as Apulia) became consolidated in the Vallis regia while during the feudal era the sheep farming industry became the leading source of income in the valley. Under the Aragonese, transhumance was reorganised and managed directly by the State; there was an increase in the production of wool and the establishment of the Customs of sheep affairs in Apulia, active till the early 19th century (1447-1806) (Figs. 1 and 2).

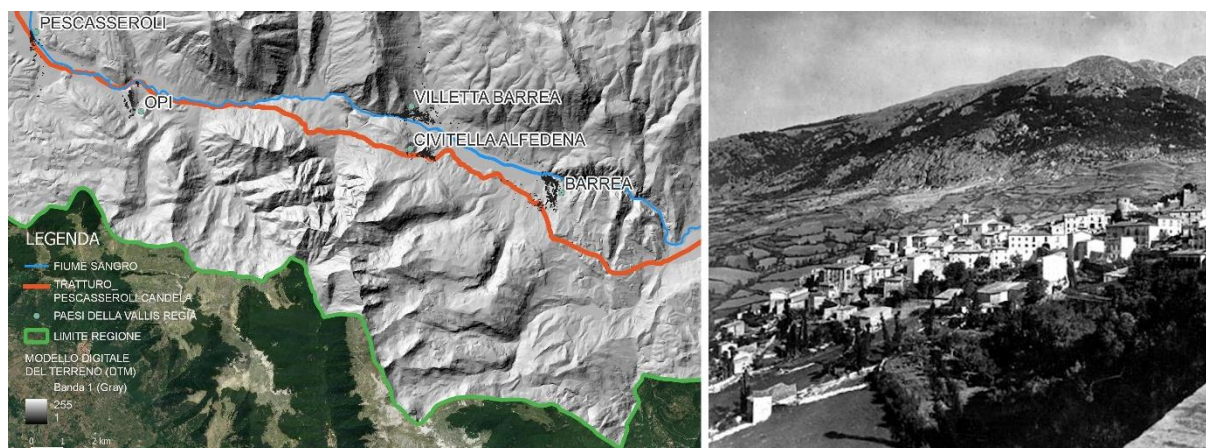


Fig. 1: Digital model of the terrain corresponding to the area of the ancient Vallis regia. Photo of Barrea, before the lake was created [14].

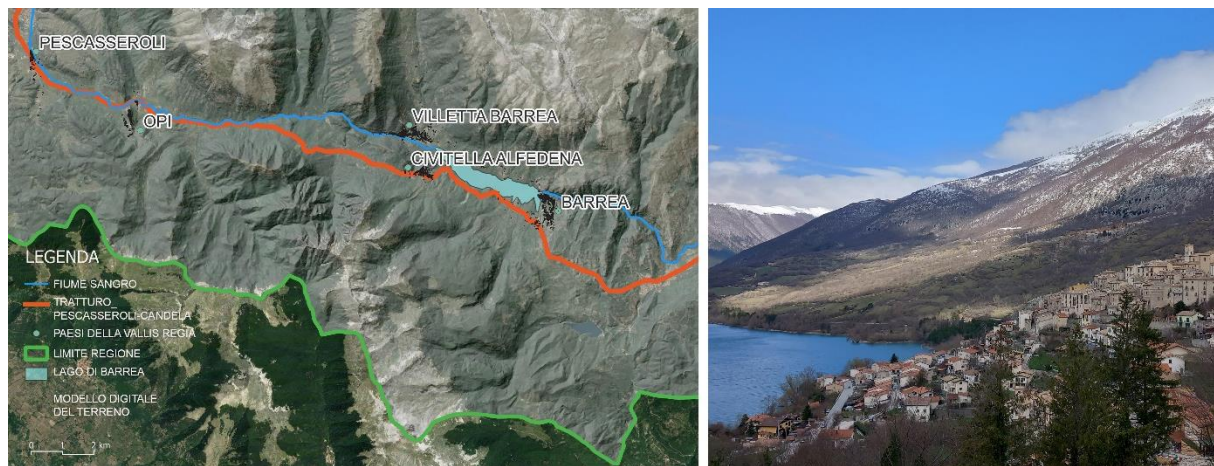


Fig. 2: Digital model of the terrain corresponding to the area of Lake Barrea. Photograph of Barrea today.

The sheep industry was an important economic activity in central and southern Italy; it allowed for the exploitation of less productive lands such as the Tavoliere delle Puglie, coastal areas, and the Abruzzi mountains; this sparked a strong process of territorialisation that led to the Abruzzi region being identified with pastoralism. Sheep farming in the Abruzzi also had an international market until it was replaced by other productions such as wool from Castiglia and later from non-European countries [8]. After the abolition of the Customs of sheep affairs in Apulia and the perpetual lease concessions regarding the lands on the Tavoliere, there was a gradual decline in the sheep farming industry; this prompted the economic decadence of the mountainous Abruzzo region and sparked waves of migration towards other areas in Italy and abroad.

The end of sheep farming and the damage caused by World War II reinforced the decision of some local inhabitants to rebuild what was now a 'destroyed' economy, starting with local resources. If, on the one hand, the creation of the lake radically transformed the area without ensuring immediate environmental stability, on the other it was considered as an opportunity, a real springboard to achieve sustainable development.

3. The Barrea valley: from a mountain landscape to a water landscape. The Barrea Lake

Barrea was artificially created in 1951 after a dam was built across the Sangro river near the Barrea gorge; it represents a humid area which in 1976 was inserted in the list of areas envisaged by the Ramsar Convention; its management is the responsibility of the Ente Autonomo Parco Nazionale d'Abruzzo, Lazio e Molise, with offices in Pescasseroli (L'Aquila).

The Barrea municipality, as well as the municipalities of Civitella Alfedena and Villetta Barrea all overlook the lake (Figs. 3 and 4). In 1922 a project was initially proposed to build two artificial basins in order to exploit the hydroelectric energy of the plains of Opi and Barrea [9].

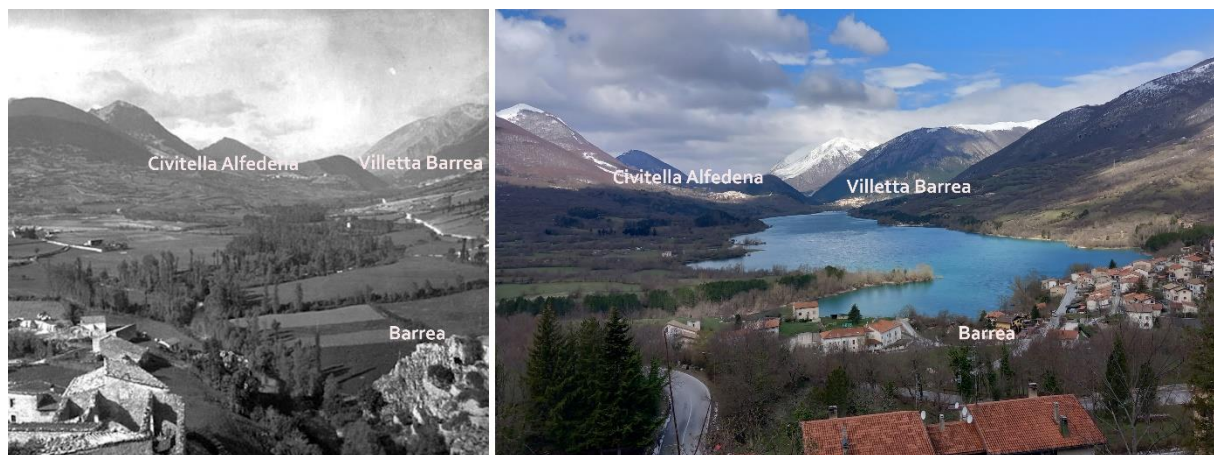


Fig. 3: Transformation of the landscape of the upper reaches of the River Sangro. The towns in the valley before [14] and after the lake was created. Views from Barrea.



Fig. 4: Transformation of the landscape of the upper reaches of the River Sangro. Views from the valley towards Barrea, before [14] and after the lake was created.

The citizens and local administrators were instead very much against this project; they defended the integrity of the area and numerous technical and sanitary reports emphasised that the project would deface the landscape and could possibly cause malaria to become endemic, thus damaging the local economy which during that period was still based on agriculture and transhumance sheep farming. The projects were therefore suspended; only the project involving the Barrea Lake was revived immediately after the war.

From 1949 to 1951, after initial concerns regarding its environmental impact were overcome, work began to dam the Sangro river in the Barrea gorge, thus creating an artificial lake. Contemporary publications reveal that the inhabitants welcomed the construction of this big infrastructure; they believed that the lake would enrich the natural beauty of the Vallis regia,[5], a territory with huge areas of woodland, chiefly beech trees, and countless species of flora and fauna, i.e., a very important national ecosystem [10].

The construction of the dam unfortunately involved the demolition of ancient infrastructures, for example the one-arch stone bridge across the deep gorges of the Sangro river near the hamlet of Barrea. Parts of the base are still visible and several old photographs portray its imposing structure (Fig. 5).



Fig. 5: Ancient bridge with a single ogival arch [14]. Right: spillway of the dam.

4. Enhancement of the landscape: the *tratturi* path along Lake Barrea

A stretch of the old *tratturo* path from Pescasseroli to Candela is still visible along the south shore of the lake; it used to cross Civitella Alfedena and continue along the valley to Barrea. This small dirt track winds its way through beech woods and grassy fields and is still used as a walking/hiking path; it also connects several local properties (Fig. 6).

We know that these *tratturi* were not real roads, since they have no road surface, nor did they have any well-defined borders; however, they represented paths that were more than visible in the territory since they were created by the hoofs of the sheep passing along them. They followed the ridges of the mountains or riverbeds and ended along either the Adriatic or Tyrrhenian coast.

Sanctuaries or *sacella* were located along these ancient paths; they were places where people could meet and where fairs and markets were often held under the auspices of the gods. Farmhouses have also been found along the path, small stone buildings only a few square meters in size that were used by shepherds as shelters. Some of these farmhouses are now used by walkers and hikers or as tourist infrastructures. The Campitelli Refuge in Alfedena is one example.

Bearing in mind the orography of the land and the numerous prehistoric remains found in the territory, scholars were able to recreate the road network of the *tratturi* connecting the Apennine mountains with the plains in Apulia and Lazio – a crucially important economic path for the territories involved. [7] On the website of the Abruzzo region there is a map showing the restricted areas (AW), i.e., parts of the territory for which protection is already provided by State and EU regulations [11].

Issuance of Law 746 of 1908 established the conservation of four important *tratturi* in the Abruzzi: the L'Aquila – Foggia *Tratturo*, the Celano – Foggia *Tratturo*, the Pescasseroli – Candela *Tratturo*, and the Castel di Sangro – Lucera *Tratturo*. They have been assigned equal status to national and state-owned roads (Ministry of Agriculture and Forests).



Fig. 6: Path along the southern shore of the lake, corresponding to the old *tratturo*.

5. Conclusions

Like all other localities, the Vallis regia and its lake is unique, because the reasons for its existence cannot be generalized or likened to other sites. In fact, every place has its own history, one which creates its recognisable cultural identity [12]. We know that the term “place” does not refer to spatial dimensions when its special identity traits are described, analyzed and interpreted. We believe this is the starting point with which to emphasise how important it is to protect and enhance cultural landscapes in order to dwell on earth while ensuring environmental, social and economic sustainability.

The currently perceived image of the Vallis regia provides us (albeit with great difficulty) with ‘snapshots’ of history, based on a critical documentation of the sites; they are acknowledged to be surviving fragments that should be protected and safeguarded due to the fact they testify to a history that should be known and preserved [13]. For example, our knowledge and understanding of the paths of the tratturi allows us to go back in time, to an age when dwelling on earth was based on relationships between man and the environment, between man and society. The different conditions that have emerged over the years are signs bearing witness to the presence of a civilisation that developed down through the centuries.

The environment of this territory has been radically changed; it has led to the configuration of new scenarios as well as uncharacteristic landscapes, e.g., the presence of trees with their roots in water during several months of the year (Fig. 7). Moreover, the possibility to swim near the shores of the lake (even if regulated by law) has determined an increase in the competitiveness of a territory already full of extraordinary flora and fauna that make this territory unique.

As a result, we must increase our knowledge of its cultural values and disseminate and communicate them by using survey campaigns and critical territorial, urban and architectural documentation, well aware that local identity is first and foremost a potential asset, an added value, a resource for sustainable development that will allow us to design our near future.



Fig. 7: Lake Barrea. Trees with their roots immersed in water during the late Spring season.

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