

THE QUEST FOR WILDERNESS IN THE FACE OF CLIMATE CHANGE

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The quest for wilderness, which since the 19th century has been an essential reason for architectural constructions in pristine nature, seems to have reached an end point in the face of the ever-deepening environmental crisis. Architectural phantasms built in the midst of forests, on mountains, or overlooking the sea can be regarded as sublime relics of the past, as the sealing of natural soil is now becoming a taboo. Nevertheless, the longing for wilderness persists or has even been amplified by the overlapping contemporary crises – climatic, ecological, and sanitary – that reinforce the desire to escape “pathological” cities. This is certainly an old story, with the difference that in the past the “original wilds”[¶] could still be seen – at least for a limited time – as a possible counterworld, prompting all kinds of constructions corresponding to very specific dreams, ideologies, and health concepts. The question is more complex today, as any architectural project implies the conquest and destruction of nature – of what we originally came to the wilderness for. This human and ecological predicament needs to be examined more carefully, especially at a time when it is ever more apparent that there is an inextricable link between striving to be in nature and its irreversible degradation.

But what actually causes the longing for wilderness, when did it first arise; and how does it express itself today? What kind of architectures were built in the past amidst “wild nature” and for what purposes? What has happened to them since? What potential and what problematics do the forest and the mountains have today in view of climate change and increasing heat? And how can architecture, especially structures that already exist, albeit often in ruined condition, respond to the needs of climate and heat refugees from various countries and cities?

Let’s start at the beginning, long before architecture came into play, namely in the early 18th century, when the wilderness was discovered as a subject that had yet to be explored from a scientific, philosophical, moral, and aesthetic point of view. It was a period characterized by a burgeoning sense that the world should be considered as a whole, that there is only one “Nature on which the World depends”[¶], as Anthony Ashley Cooper, 3rd Earl of Shaftesbury, wisely put it. Isn’t it time now to draw inspiration from this holistic view of the world to enable us to deal with it in a different way?

in conjunction with the heliocentric view of the world, whereas in medieval Western culture it was still associated with hell and fear due to its chaotic, unpredictable characteristics. Championed by the disciples of the enlightened English New Science Movement (1640–1700, also called New Philosophy), who drew on the doctrines of antiquity, wild nature increasingly became a key feature of aesthetics. A holistic conception of the world spread that viewed all natural elements as part of the cosmos, which henceforth contained both order and disorder.

This radical turn is evident in Shaftesbury's writings; he considered the "original wilds" (such as deep forests and frightening mountains) and even dangerous animals as part of Creation, emphasizing that they are also part of the harmonic cosmos and therefore useful too:

The wildness pleases. We seem to live alone with Nature. We view her in her inmost recesses, and contemplate her with more delight in these original wilds, than in the artificial labyrinths and feigned wildernesses of the palace. The objects of the place, the scaly serpents, the savage beasts, and poisonous insects, how terrible soever, or how contrary to human nature, are beauteous in themselves, and fit to raise our thoughts in admiration of that divine wisdom, so far superior to our short views.▲

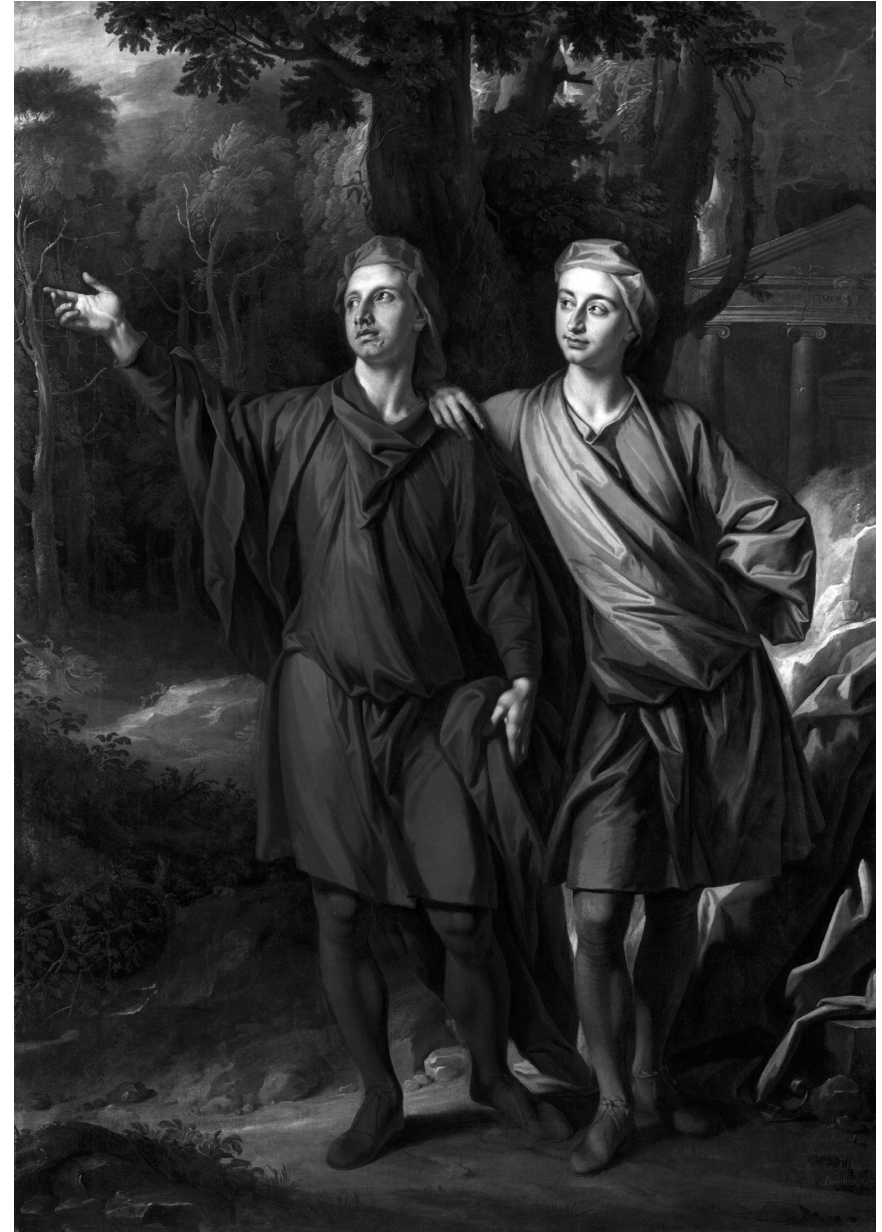
The savage beasts and the roughness of nature contain riddles, surprises, wonders, and frights; he saw the divine expression of wisdom in its "madness"❧, and not merely in its harmonic order, since the unpredictable moves us and provokes us to reflect. For Shaftesbury, the sublime lay in this area of conflict: a God-Nature concept in which good and evil are united and the assumed chaos is recognized as part of the order❧.

Shaftesbury interests us more particularly with regard to the forest, which he uses to illustrate his holistic view of the world: "Why [...] is there any difficulty in fancying that the Universe is one entire thing? Can one otherwise think of it, by what is visible, than that all hangs together, as of a piece?"✱ He illustrates his cosmic idea with the example of the forest, as one does not perceive the individual trees, but rather the forest as a whole. A tree was for him a symbol of unity with a larger, interconnected cosmos: "All things in this world are united. For as the branch is united with the tree, so is the tree as immediately with the earth, air, and water, which feed it".

What particularly interests us in his reflections is the holistic perspective that today needs to be reconsidered from an ecological and intellectual point of view.

John Closterman, Maurice Ashley-Cooper and Anthony Ashley-Cooper,
3rd Earl of Shaftesbury, ca. 1700-1701.

National Portrait Gallery, London, Primary Collection, NPG 5308.
Wikimedia Commons.



Following the Enlightenment, “wilderness” was seen, for various (primarily moral) reasons, as an idealized counterworld to the city. Rousseau wanted his Émile to be educated in nature in order to develop independent thoughts, observations, insights, and, above all, a natural, uncorrupted morality. He also recognized the potential healing force of nature:

I doubt much whether any violent agitation, or vapours of the mind, could hold out against such a situation; and I am surprised that a bath of the reviving and wholesome air of the mountains is not frequently prescribed both by physick and morality. ↓

But it was not until the 19th century, when railroads began to be constructed, making the mountains increasingly accessible, that large-scale constructions were built to accommodate people from the cities in the midst of “wild nature”, whether for pleasure (grand hotels) or for health reasons (sanatoriums).

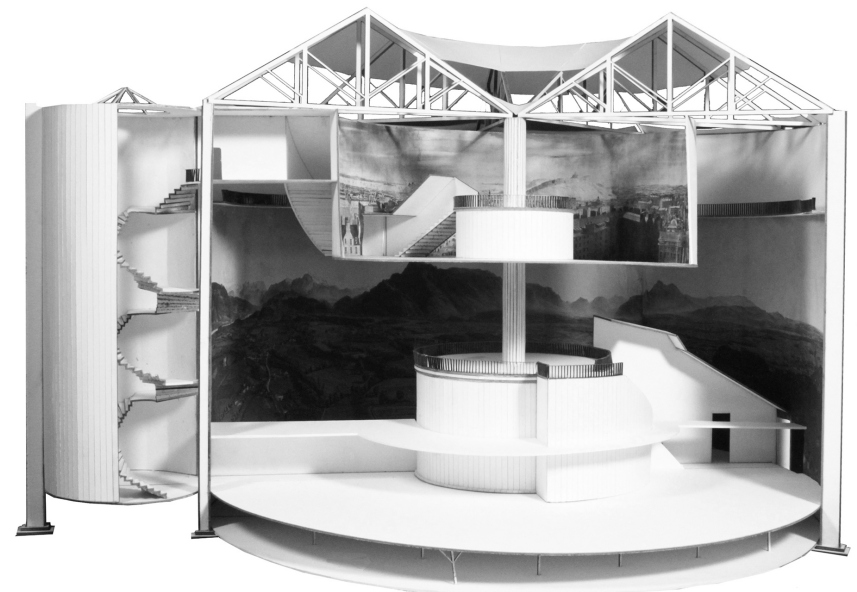
Since Shaftesbury’s day, the Industrial Revolution and an ever-expanding transportation system have led to the exponential exploitation and domination of nature. As humanity’s proliferation started to put nature under pressure, measures were put in place to protect it. Sigmund Freud visited one of the first nature reserves to be established in America in the late 19th century and was impressed by these parallel worlds, where everything is preserved in its “original state”, while in reality industrialization is proceeding apace. He compared the nature reserves to the functioning of the psyche, particularly to phantasy, a mental process that makes it possible to take distance from reality:

The creation of the mental realm of phantasy finds a perfect parallel in the establishment of “reservations” or “nature reserves” in places where the requirements of agriculture, communications and industry threaten to bring about changes in the original face of the earth which will quickly make it unrecognizable. A nature reserve preserves its original state which everywhere else has to our regret been sacrificed to necessity. Everything, including what is useless reserves” in places where the requirements of agriculture, communications and industry threaten to bring about changes in the original face of the earth which will quickly make it unrecognizable. A nature reserve preserves its original state which everywhere else has to our regret been sacrificed to necessity. Everything, including what is useless and even what is noxious, can grow and proliferate there as it pleases. The mental realm of phantasy is just such a reservation withdrawn from the reality principle. †↑

Model of the Panorama building Leicester Square, 1792,

conceived by Robert Mitchell and Robert Barker.

© History seminar led by Susanne Stacher at the ENSA Versailles.



Wilderness and phantasy are to be understood in terms of this intrinsic relationship. This is one of the reasons why the “original wilds” had caused a furor in the cities, after literature, paintings, panoramas, and diorama shows had illustrated mountains and wilderness in an increasingly realistic way.

As the construction of railways made traveling easier, urbanites flocked to the Alps to experience the sublime in situ, staged in iridescent colors. The first Alpine grand hotels sprang up in close proximity to the railway stations and in the most attractive locations. The buildings that city folk erected in the Alps to follow their yearning for the highly publicized “sublime mountains” had their architectural origins in these projects. The illusionistic image of the Alps was transferred from urban reproductions to the real mountains, thereby changing the way they were perceived. There developed an interplay between the experience of the original and of reproductions of it. Phantasy found a new realm in the “wilderness”, which, as construction continued apace, became less and less wild however, while the longed-for sublime became more and more picturesque.

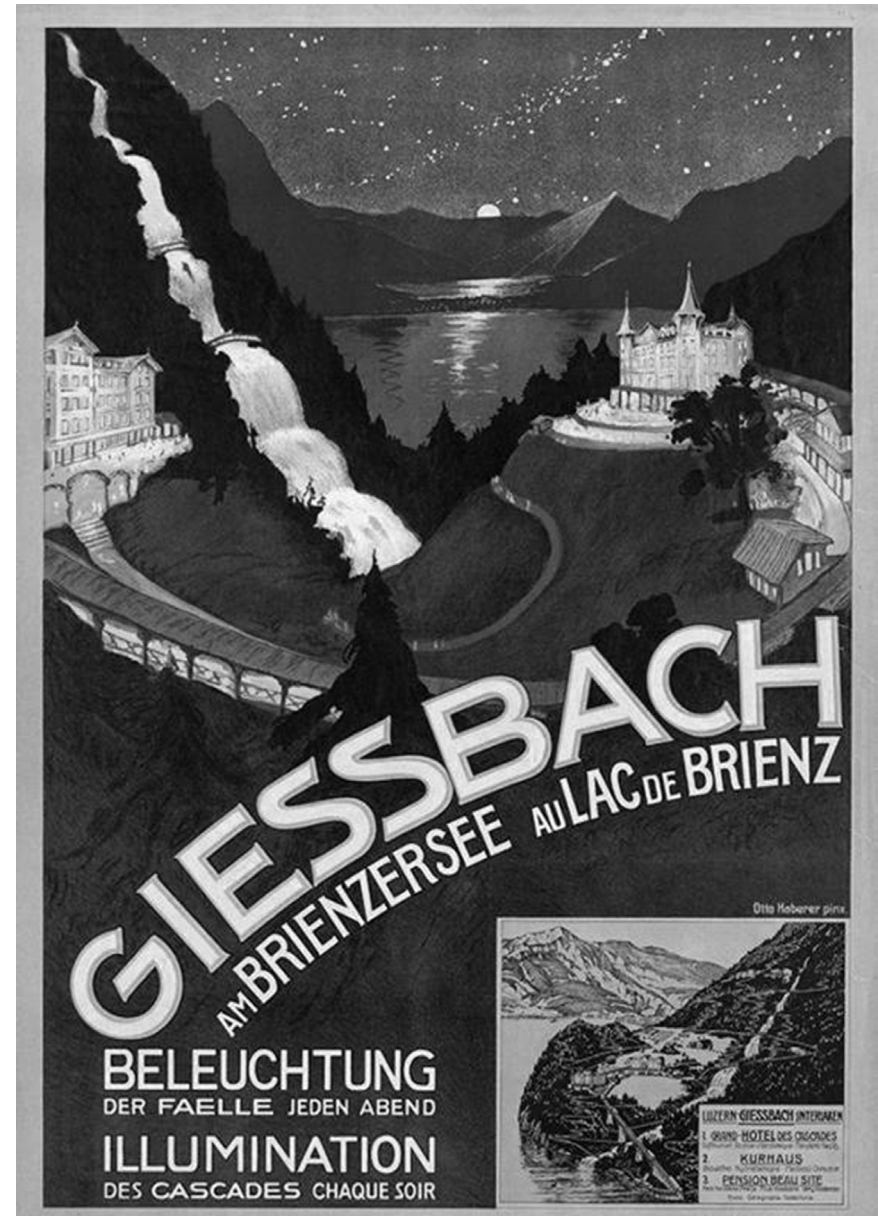
NEW HEALTH CONCEPTS IN THE MIDST OF NATURE: A LABORATORY FOR LIVING
FORMS AND ARCHITECTURAL INVENTIONS

From the second half of the 19th century on, the Alps were seen as a therapeutic landscape; the mountains, the fresh air, and, above all, the sun as a panacea, were mythologized. It was not just pristine nature that was now deemed “sublime” but also the sun, which was elevated to mythical status and seen as being conducive to good health. The notion of God and nature thus shifted from the wild mountains to the sun; its radiance was to further the healing and recovery of the “new man”, far from the cities, which were associated with alienation and illness. The sun was the basis of various conceptions of healing.

New ideals of a more natural way of life emerged. The Monte Verità colony, founded in 1900 by a small group of “life reformers”, tried to put this ambition into practice¹². They built small wooden huts on the edge of the forest in the mountainous region of Ticino and lived mainly outdoors, naked or dressed in loose white “reform” clothes, trying to re-establish life in a holistic way. Body, mind, and soul were meant to find unity by introducing into this phantasmic new way of “natural” life a cultural dimension via music, conferences, and modern dance classes – a holistic way of achieving more “resonance” (in the sense that Hartmut Rosa gave to this term¹³).

But the most dominant healing concept was the one prac-

Friedrich Studer, Giessbach, Am Brienzersee, Au Lac de Brienz,
Beleuchtung der Fälle jeden Abend, 1912, advertising poster.
Otto Haberer-Sinner, Hubacher & Cie. AG, Bern.



ticed by doctors in sanatoriums. To gain exposure to the sun and mountain air, patients would lie for hours, in any weather conditions and in all seasons, on cure galleries that were specially created for this purpose (a contrary healing concept to the one practiced on Monte Verità). Corresponding to the ideas of the doctors and founders of sanatoriums, new architectural typologies were developed, and over time improvements were made to optimize their effect. Architects were challenged to invent typologies that allowed a maximal exposure time without shading, all day long, in winter and in summer.

In the first type of sanatorium, the cure galleries were collective spaces built in the garden, whereas in the second type they were placed in front of the façade, so that everyone could have direct access to their own outdoor space. But the balconies prevented the sunrays from coming directly into the patient's room. Furthermore, in order to accommodate as many rooms as possible, increasingly narrow building grids had been developed, which prevented light from penetrating into the depths of the rooms and also limited the view. New typologies needed to be invented in order to provide maximal sunlight.

One of the most interesting typological innovations was conceived by Pol Abraham and Henri Jacques Le Mème for the Plaine-Joux sanatorium (1927–29) on the Plateau d'Assy in the French mountains: a huge ship-like terraced building on the edge of the forest. Of primary importance for the choice of location was its remoteness and altitude – the sanatorium was supposed to be situated 300 meters above the village of Assy at the edge of the woods – as well as the intense sunshine it received. The isolated location promised a dust- and smoke-free atmosphere, as well as absolute peace. The originality of the proposed typology lies in the idea of twisting the rooms 45 degrees to ensure permanent sun exposure. Semicircular balconies were inscribed between the glazed corners of the rooms, which sprang out of the façade. Such a corner has the advantage that the sunrays illuminate the room from morning to evening. While the insolation of one of the two sides could be regulated by an awning, the other side continued to provide a view of the mountains. The rounded balconies did not prevent sunlight from coming into the rooms and, thanks to their location between the glass corners, they were also sheltered from the wind. Although this ingenious design never progressed beyond the foundations owing to the global depression (and the withdrawal of American shareholders), the architects were soon able to build four more sanatoriums on Plateau d'Assy, two of which still exist today – converted into hospitals and vacation homes for children's colonies, although some are now in ruins.

Johann Adam Meisenbach, photograph of Rudolf von Laban with his dance school at Monte Verità, 1914. Left to right: Betty Baaron Samoa, Totimo, Isabelle Adderley, Rudolf von Laban, Maja Lederer, Suzy Perrottet, Katja Wulf.
© Johann Adam Maisenbach, courtesy Estate of Suzanne Perrottet.

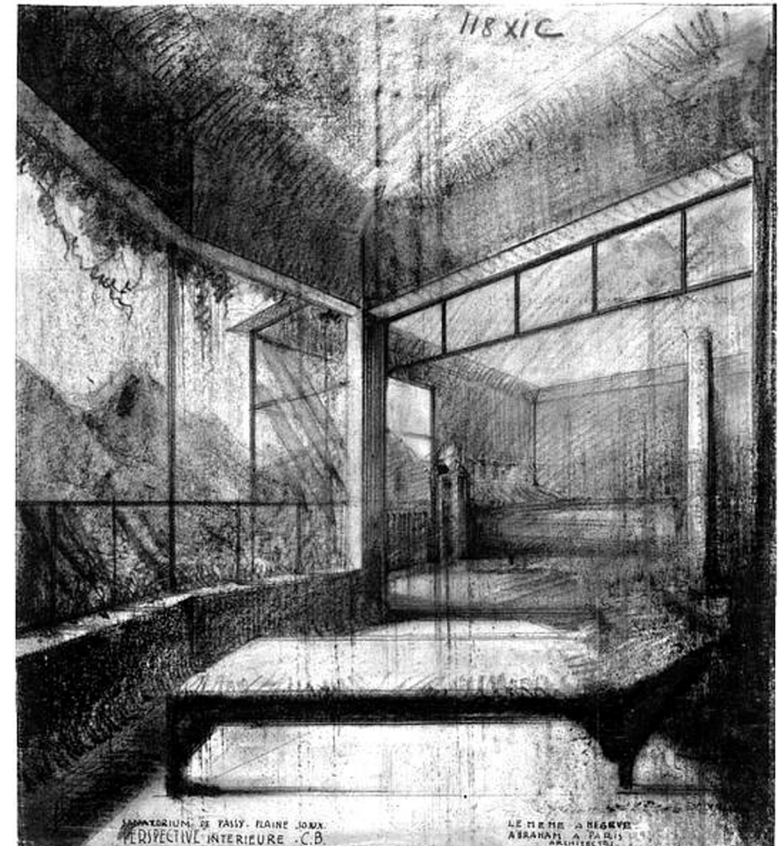
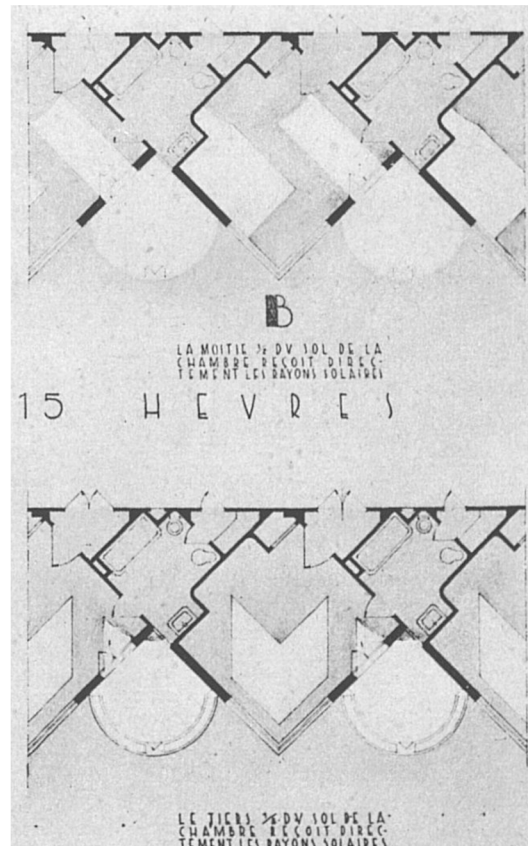


Left: Roger Soubie, Sketch for the Plaine-Joux Sanatorium Plateau d'Assy, France by Pol Abraham and Henry Jacques Le Même, 1929, in *L'Architecte*.

Right: Pol Abraham, Henry Jacques Le Même, Room plan with natural light impact, 1929.

Pol Abraham, Henry Jacques Le Même, interior perspective of a round balcony with room in the background.

Bibliothèque Kandinsky. © RMN, inv. no.: Pol Abraham_04-004245.



One of them, the Roc des Fiz children's sanatorium, constructed in 1932, had an outstanding typology with completely different organizational principles than the compact pioneering project, as it is based on a ramified system of individual buildings that spread out into nature: the main edifice contained the dining room, the medical facilities, and two dormitories, where a third of the children slept. The others were distributed among four individual pavilions, each one offering accommodation for thirty children. They were connected to the central edifice by glazed and heated galleries to ensure a constant climate. In this way, an interconnected ground-level system was created, providing the children with an immediate relation to the outside and yet offering protected paths to the main edifice. Each pavilion docked at one end to the gallery system, while the other, rounded end housed a playroom. The semicircular shape of the pavilions captured the sunrays all day long and lent it a dynamic character. Structurally, they consisted of semi-arched, reinforced concrete frame elements, which forked to the front glazed area in order to support the cantilevered pent roof. It opened toward the south, so that the room was flooded with light. While the upper windows let the sun's rays penetrate deep into the room, the lower ones provided a view of the landscape and direct access to an elevated terrace that led to the meadow via stairs. There was easy access to the outdoors; inside and outside formed a completely fluid continuity, similar to the open-air schools (*écoles de plein air*), or schools of the woods, that were developed in various countries on the outskirts of cities at the same time. This very innovative sanatorium was hit by an avalanche in the 1970s and was demolished soon after.

The third example we will mention is the Villaggio Sanitoriale di Sondalo † – a huge utopian city-like, modernist health complex surrounded by woods, built in Italy between 1932 and 1940. The typology (corresponding to the second sanatorium type) was quite common at that time: the pavilions feature long, overhanging cure galleries in front of the façades, which were elegantly shaded by curved wooden lamellae that stand out from the landscape – reminiscent of ships at sea. What makes this sanatorium village outstanding is not the typology but its Promethean relation to the ground and its complete autonomy from the surroundings: towering futuristically above the Valtelline village of Sondalo, the complex plants itself into the steep, woody mountainside in the southern foothills of the Western Rhaetian Alps with gigantic infrastructural construction measures. High stone walls support the roadways, which – as in ancient Rome – are built on brick terraces and viaducts to overcome the unevenness

of the terrain. The winding roads that jut far beyond the natural terrain lead up the steep slope in maneuverable curves and are bordered by boulevard-like rows of trees that provide shade to pedestrians. They are accompanied by rotundas, terraced gardens, and wooded parks that invite people to stroll. The nocturnal lighting of countless lamps lends them an urban character in the midst of the wilderness. Made of porphyry blocks, the plinth and the terraces form a material unit with the viaducts, while the colorfully plastered buildings contrast the massive plinth landscape with other reds and yellows.

What is very interesting for our contemporary problematic is the fact that the sanatorium city was a microcosm functioning independently of the outside world with its own power plant and autonomous water supply. It had a church, shops, a cinema, an amphitheater, thermal baths, a weather station, and even a private radio antenna. The medical and administrative staff enjoyed their own swimming pool, bocce court, and tennis court. An extensive aerial cableway system made fast delivery possible: from the roof terrace of the central building, small cable cars headed directly to the rooftops of the nine sanatorium pavilions, where freight elevators took over the vertical distribution † †.

With the invention, in the 1940s, of antibiotics – the only efficient means of curing tuberculosis – all sanatoriums suddenly lost their *raison d'être*. The Sondalo complex is today partially still used as a hospital town (*Ospedale Eugenio Morelli*); some of the pavilions are empty and dilapidated.

As sanatoriums, just like grand hotels (and very soon – with advancing climate change – ski resorts too), have been deprived of their original purpose, they are suffering today from a lack of new, vital concepts. The city in the forest, which is half-abandoned today, offers great potential for new uses, particularly because of the large supply of common space and a possible carbon-free transportation system, which could easily be reanimated. In the Face of Climate Change: Some Reflections on the Architectural Challenges of Dealing with the Utopias of Modernism

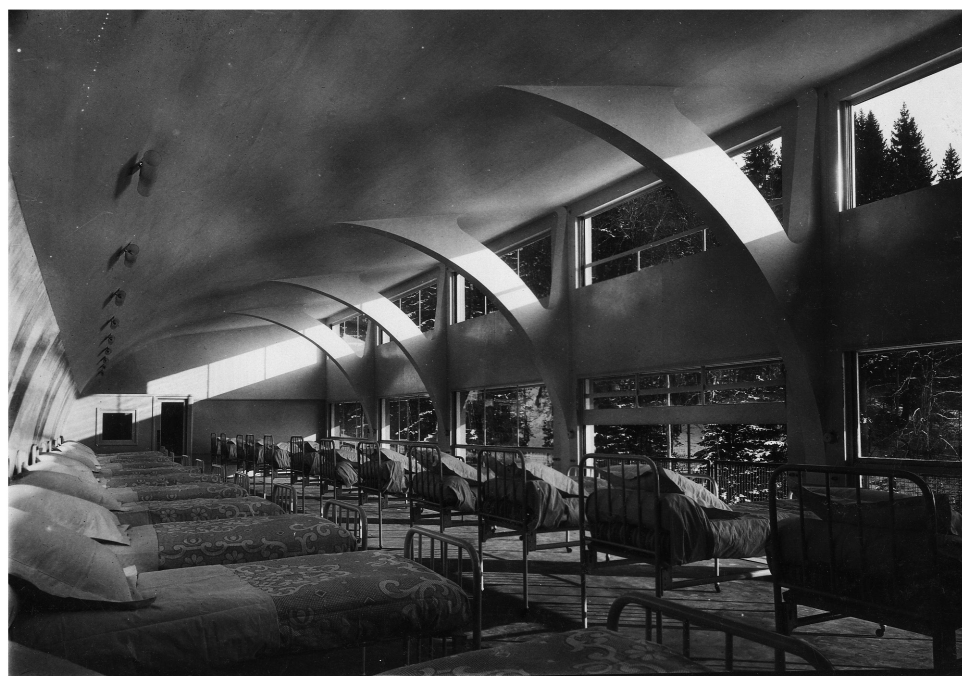
The current superimposed crises (climate, environmental, health, geopolitical, energy, economic, and social) could be seen as an opportunity to reconsider cultural heritage in a creative and sustainable way. Given the issues at stake, don't these buildings, surrounded by pristine nature, have real potential for reuse?

When the COVID-19 pandemic interrupted the continuous flow of life, the French sociologist and philosopher Bruno Latour – who saw in the suspension of time an opportunity for a possible reorientation – wrote, "If everything is stopped, everything can be questioned, inflected, selected, sorted, interrupted for good

Pol Abraham and Henry Jacques Le Même, Roc des Fiz Sanatorium Plateau d'Assy, exterior seen from a children's pavilion, France, 1933. Archive 74.



Pol Abraham and Henry Jacques Le Même, Roc des Fiz Sanatorium Plateau d'Assy, interior of a children's pavilion, France, 1933. Archive 74.



Villaggio Sanatoriale di Sondalo, viaduct with central house (right) and church (left), 2015. © Susanne Stacher.



or on the contrary accelerated”¹¹. Crises can be seen as an opportunity to focus on what is essential and to imagine alternatives¹². Latour reminds us that “the health crisis is embedded in what is not a crisis – always temporary – but rather a lasting and irreversible ecological mutation. If we have a good chance of ‘getting out’ of the former, we have none at all of ‘getting out’ of the latter”¹³.

Crises are increasing the need (and desire) to escape diseased or overheated cities, which will become much more common and increasingly hotter in the future, according to IPCC reports. People will attempt to move to climatically more favorable zones and to higher altitudes, at least for some time. In addition, the need to reduce carbon emissions and ever-rising energy prices will lead to a change in travel habits, with people seeking out nearby cooler areas rather than distant destinations in hot climates. This may be the point at which the ruins of the past, especially grand hotels and sanatoriums, can once again play a key role, as they were designed to house large numbers of people and are located in cool mountainous regions on the edge of forests – ideal places to withstand future temperature spikes. Too expensive and too beautiful to demolish, couldn’t they be given a new lease of life in the face of climate change, as their footprint already exists?

One of the biggest challenges will be to provide affordable space for those who don’t have a second home in the countryside. The state would have to invest, regulate prices, and organize the flows of heat refugees from different cities, regions, and countries.

Another challenge lies in the adjustment of the architectural characteristics, as these buildings were conceived for maximum solar radiation, while in the future we will need to protect ourselves from the intense rays of the sun during the summer. All kinds of shading systems could easily regulate such problems. The lamellae for the pavilions in Sondalo are already there for this purpose; restoring them would be a relatively simple task.

From a spatial point of view, these buildings would have to be adapted to contemporary use, allowing greater flexibility between individual, family, and collective spaces. The current single rooms could be connected by communicating doors, allowing greater intimacy between family members, friends, and couples, as desired, while the collective corridor would still be a possible way of reaching one’s own room independently. In this way, privacy could be maintained even better than in standard apartments, as more flexibility is offered.

Consideration should also be given to common indoor and outdoor spaces to encourage the development of collective

activities that provide a stronger feeling of “resonance”. Hartmut Rosa understands by this concept “a specific form of entering into a relationship with the world that is based on essential elements. [...] For this, one must feel connected to the world. [...] One must have the experience of touching the world”². The German sociologist and philosopher analyzes our relationship to the world through very diverse forms, ranging from the most basic bodily experience (breathing, eating, sensations ...) to the most elaborate affective relationships and cognitive conceptions. He establishes three categories of resonance: the relationship with others in the spheres of friendship, love, and politics (what he calls “the horizontal axis”); the relationship with matter, artifacts, and things in the spheres of work, education, and sport (“the diagonal axis”); and the relationship with an idea or an absolute in the spheres of nature, religion, art, and history (“the vertical axis”). “Resonance” – that is to say, our sensitive and conscious link to the world – increases our power to act and, in return, our ability to let ourselves be “touched” and transformed by the world, as Rosa puts it. He emphasizes that resonance is lacking in modern society, because the acceleration of time has profoundly changed our relationship to the world on an individual and collective level³. This concept is of interest to us as it encompasses the totality of our “being in the world,” which we question here through the lens of architecture and nature, and more particularly because it opens up a different kind of relationship with heritage, which can be dealt with in a more holistic way (beyond a simple focus on the technical restoration of concrete).

Since sanatoriums and grand hotels have always had large dining rooms, game rooms, and even libraries (and, in the specific case of Sondalo, a city-like offer with a church, shops, a cinema, an amphitheater, thermal baths, a weather station, a private radio antenna, and an extensive aerial cableway system), the implementation of common space is much easier here than elsewhere; and maybe the creation, too, of more resonance, as the relationship with others could be formed through common living space and activities (“the horizontal axis”), combined with new concepts of work (co-working and cooperatives), education and sport (“the diagonal axis”), as well as an intense relationship with nature (“the vertical axis”). Successful renovation would mean bringing these three axes into convergence, without forgetting the need to increase our capacity to act.

The emblematic style of these buildings, their collective typologies, and their compact forms could be seen – compared to the never-ending settlements of individual houses that have been spreading in pristine nature since the advent of the con-

sumer society in the 1950s and have, to a great extent, destroyed it – as a far more promising formula that might regain a certain interest today from an ecological point of view, as these constructions offer the qualities that we are longing for today. The most important of these is certainly the immediate connection with nature in terms of view and access to the surrounding forests and mountains, which is indeed a very desirable quality but one that is hardly reproducible today, unless it be in the form of a renovation.

The dream of a rudimentary hut in the woods (like the ones built by the life reformers on Monte Verità), which now implies the construction of roads, soil sealing, sewage, waste, etc., seems to be an unattainable topos of the past or a rare privilege for the richest and most influential personalities. Today, we are aware that our longing to be in nature is quite destructive, as the structures we build alter the very fragile equilibrium of the whole. The collective structures, though, such as sanatoriums and grand hotels, are already there and capable of providing to a greater number of people not only (temporary) shelter in the face of ever-rising temperatures but also a (more permanent) decent living space, especially if they are adapted to our contemporary lifestyle and aspirations – so that the three axes of resonance could, ideally speaking, converge.

Architecture and its relationship with nature need to be rethought thoroughly today, which is indeed a rather complex issue. On the one hand, we wish to escape to nature in order to replenish ourselves, to expand our mind (Shaftesbury put it beautifully: “To raise our thoughts in admiration of that divine wisdom, so far superior to our short views”), or to retreat into a counterworld where phantasy and the imaginary can freely unfold, as Freud pointed out. On the other hand, we are aware that our presence in nature compromises the “original wilds” we are looking for, as we destroy the fragile balance of the “whole” that Shaftesbury emphasized in his cosmic view of the world. Modernism and its ongoing exploitation of nature in the name of progress have created such environmental chaos around the world that the subtle balance between order and disorder in the cosmos is in danger of collapsing. At this advanced stage of environmental crisis, a holistic worldview, as advocated by Shaftesbury, seems more than ever necessary if we are to think about the future.

Obviously, wilderness no longer exists today. However, the longing for the lost realm still fires our phantasy, probably more than ever, as its disappearance provokes horror in the face of increasingly complex environmental problems. The forest and

the mountains, themselves at growing risk of profound, irreversible alterations, remind us of this fact, as components of a “whole” that lost its cosmic balance a long time ago. Our contemporary yearning for nature is to be seen in this tension between romantic nostalgia and the alarmed awareness that this one “Nature on which the World depends” ⚡ might not be everlasting.

Let us therefore try to restore this balance as much as possible in this very advanced stage of transformation and develop powerful concepts for the heritage built in nature, in order to offer, in the face of the coming crises, a better and healthier life to the most vulnerable citizens, enriched with greater resonance.



A. Ashley-Cooper, 3rd Earl of Shaftesbury, “The Moralists, a Philosophical Rhapsody” (1709), in *Characteristics of Men, Manners, Opinions, Times, with a Collection of Letters by the Right Honorable Antony Earl of Shaftesbury*, vol. 2, J. J. Tourneisen and J. L. Legrand, Basel 1790, pt. 3 (1), p. 321.



Ibid., pt. 3 (1), p. 290.



See Dmitri Levitin, *Ancient Wisdom in the Age of the New Science: Histories of Philosophy in England*, c. 1640–1700, Cambridge University Press, Cambridge 2015.



Shaftesbury, part 3 (1), p. 321.



Ibid., part 2 (5), p. 280: “We must have riddles, prodigies, matter for surprise and horror! By harmony, order, and concord, we are made atheists; by irregularity and discord, we are convinced of Deity! The world is mere accident, if it proceeds in course; but an effect of wisdom, if it runs mad!”



See Susanne Stacher, *Sublime Visions*, Birkhäuser, Basel 2018, pp. 26–28.



Shaftesbury, part 3 (1), p. 288.



Ibid., part 3 (4), p. 237.



Jean-Jacques Rousseau, *Julia, or the New Eloisia: A Series of Original Letters*, etc. (1761), vol. 1, J. Bell, J. Dickson, and C. Elliot, Edinburgh 1773, p. 68.



S. Freud, *Introductory Lectures on Psychoanalysis*, vol. 1, trans. James Strachey, ed. James Strachey and Angela Richards, Penguin Freud Library, London 1991, pp. 419–420.



Stacher, *Sublime Visions*, pp. 37–39.



Ibid., p. 81.



Ibid., pp. 82–85, 94–97. Followers of the German *Lebensreform* movement, which drew inspiration from English reform movements.



See Hartmut Rosa, *Resonance: A Sociology of Our Relationship to the World*, Polity, Cambridge 2019.



Stacher, *Sublime Visions*, chap. 3, pp. 104–105.



Province of Sondrio, Lombardy.



Ibid., chap. 3, pp. 108–109.



B. Latour, *Imaginer les gestes-barrières contre le retour à la production d'avant-crise*, AOC [online journal], 30 March 2020, <https://aoc.media>, accessed April 2020.



See Susanne Stacher, *Architektur in Zeiten der Krise: Aktuelle und historische Strategien für die Gestaltung “Neuer Welten” / Architecture in Times of Crises: Current and Historical Strategies for Designing “New Worlds,”* Birkhäuser, Basel 2023.



Ibid.



See Hartmut Rosa, *op. cit.*



Ibid. Hartmut Rosa seeks to break with the idea that material, symbolic, or psychic resources alone are sufficient for our happiness by emphasizing that we must also be able to act.



Shaftesbury, part 3 (1), p. 321.



Ibid. p. 290.

CONSTRUCTING THE MODERN FOREST IN GREECE: DIMITRIS PIKIONIS AND THE PERTOULI EXPERIMENT ON THE MOUNTAIN RANGE OF PINDOS

EMILIA ATHANASSIOU

This chapter attempts a critical re-reading of the Greek architect Dimitris Pikionis' (1887-1968) project for the model forest settlement at Pertouli, situated in the heart of the mountain range of Pindos, at an altitude of 1,150 m. This settlement, designed between 1953 and 1956 and realized gradually until 1964, was built with a view to house the administrative, teaching and research staff, students of the Faculty of Forestry of the Aristotle University of Thessaloniki, as well as the forest workers, their families and various support personnel, all entrusted with the sustainable management of the local fir forest reserve, covering an area of 3,296.59 hectares. The Pertouli project marks the first attempt to establish in Greece a fully developed, scientifically organised and controlled forest management plan in a previously inaccessible forest, initially envisioned in the 1920s by forestry professor Anastasios Economopoulos (1893-1971), a key figure in raising an awareness on modern forestry and sustainable forest management in Greece. His vision was conceived both as a scientific and a social experiment in collective living in the remote mountainous wilderness of Pindos. Pikionis' design for the forest settlement was an early paradigm of post-war vernacular modernism and up to this day remains a telling example of a creative synthesis between the architectural tradition of mountainous central Greece and the modern functionalist idiom. The Pertouli project is discussed here in the context of the emergence of the sylvan ideal in Greece in the late 19th century, its idealisation in the interwar period and its visionary reformulation in the first post-war years. Pikionis' architecture and Economopoulos' forestry are explored as compatible trajectories of thought, characteristic of interwar idealism, projected into the post-war discourse of social and economic reconstruction as a model of development for both the forest and the forest-dependent local community. The two university teachers believed in the educational role of nature in maintaining society's robustness and upholding its moral and ethical strength in the challenging backdrop of the modern condition. Nature was a concept that defined interwar thinking, by permeating all cognitive levels of self-definition; scientific, aesthetic, mystical, philosophical and social.

In legal terms, the forest cannot be defined by any laws of nature, nor is it a readily perceivable physical entity, rather, it constitutes a mental construct, a landscape that is shaped in the mind of the legislator according to the dominant perceptions of each era⁸. Beyond this, the forest, in particular the thick, ever-green forest of the high mountains, is a retreat for the senses, an

View of the village of Pertouli from the Southwest.
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imaginary realm that functions as a strong conceptual counterpoint to the concept of culture. Allegories of the forest originating in the mythological past rendered evergreen trees, such as oaks, sacred; cutting them down was forbidden, as they were associated with Dryads, nymphs of forests and meadows, and Alseids, nymphs of glens and groves. In modern times, the high forest of evergreen fir trees was identified with the German cultural landscape as a real and conceptual territory that Tacitus, the Roman historian of the 1st century, had described in his *Germania*, as covered by horrid forests[↓]. However, over the centuries, the high forests of Germany were threatened with extinction many times over, more recently towards the end of the 18th century, when intensive exploitation led to an almost complete deforestation of the land. In response to this, as Radkau writes, “in the early 19th century, Germany became the pioneer in reforestation policy”^Λ and the sylvan ideal became the basic ingredient of the then re-configured Germanic romantic nationalism.

In this context, Caspar David Friedrich’s (1774-1840) painting *Chasseur in the Forest* [Der Chasseur im Walde] (ca. 1812-1814) renders the forest “a manifestation of the awful and sacred power of the fatherland”^Λ, the representation of Germanentum par excellence, the visual equivalent of Richard Wagner’s (1813-1883) musical works, where the forest symbolizes the spiritual cradle of the German race. The painting exudes a powerful, declarative visual energy, where Germany is represented as the menacing forest that defeats its enemies. Friedrich’s work can be seen as extolling the unconquerableness of the mountains and the forests, while exposing the vanity of Prussian power, which shall never tame the highlands of the country. Furthermore, Friedrich’s landscapes bring on the melancholy of the human condition, against the magnificence and eternity of nature. In the same vein, Friedrich Nietzsche (1844-1900) has also been identified with the metaphor of the elusive high mountains of the Black Forest range, whose footpaths he often walked^Λ. At the core of the Nietzschean argument is the belief that escaping the urban chaos, enjoying the view of high mountains, striding across the dark forests and climbing the untamed peaks makes the search for philosophical truth possible. Mountains symbolize the “will to power” [Wille zur Macht]. There, Nietzsche’s “eternal recurrence” [Ewige Wiederkunft] and “becoming” [Werden] inform Martin Heidegger’s (1889-1976) “being”, moulded by following the Holzwege, the network of paths that run through the forest, a metaphor for the labyrinthic twists and turns of scientific and philosophical inquiry that eventually would lead to the “clearings of truth” [Lichtung][✱].

In modern Greece, the organized management of the natural environment and the systematic study and protection of the forests were advocated by Princess Sophia of Prussia (1870-1932), who upon her arrival to Greece in 1889 as royal bride¹, considered it her duty to instil her love for the forest in the Greek people. In 1899, with her patronage and the contribution of a few other enthusiasts², the Athens Friends of the Forest Association [AFFA] was founded with the aim of reforesting bare land and raising a forest-friendly public consciousness. In 1916, Sophia, by then Queen consort of the Hellenes and head of the AFFA, commissioned poet Pavlos Nirvanas (1866-1937) to author a propaganda essay entitled "The Forest"³. This essay, printed at the Government Printing Office, was distributed free of charge in order to further cultivate the love for the forest.

The Pertouli experiment was incubated in the fertile climate of interwar Greece's agrarian reform, permeated by socialist ideas⁴. The 3rd grade elementary school textbook *The High Mountains* (1918) by Zacharias Papantoniou (1877-1940) served as the flagship of PM Eleftherios Venizelos' (1864-1936) educational reform (1917-1920). It was the first textbook written in Demotic Greek (the language of the people) and set the foundations for a thorough pedagogical reformation of the Greek educational system. Papantoniou introduced his young readers to modern life and thinking, i.e., reasoning, free spirit, scientific inquiry and experimentation, responsibility, cooperation and solidarity, by means of a literary return to nature, to the agrarian life of the mountainous village communities in the forest⁵. In 1917, Venizelos established an independent Ministry of Agriculture and Public Lands, with Andreas Michalakopoulos (1875-1938) as its first minister and with a wide-range of responsibilities that included agricultural education and research. In the same year, the Athens Faculty of Forestry was founded⁶, followed, three years later, by the Athens Faculty of Agriculture. Alexandros Papanastasiou (1876-1936)⁷, another influential figure of the times and minister of Agriculture (1926-1928), was a sociologist who believed in transplanting suitable functional relations of production from abroad into the backward economy of Greece, which were expected to promote modernization without social inequalities. He also championed for a responsible state, capable of responding to the needs of its citizens and restoring social harmony⁸. The 1917-1923 agrarian reform set the basis for the economic and social rejuvenation of the Greek periphery, which also affected forest communities in the Greek mainland.

A comparable impulse can be detected in the work of social-

ist sociologist Platon Dracoulis (1858-1942), who explored, in his utopian *Rural Alliance* (1927), rural poverty and the prospect of transforming the countryside into a network of clusters of spiritual, physical and moral development. He championed the foundation of an agrarian culture as an antidote to the urban lure that drove farmers away from their land. Dracoulis evangelized an agrarian revolution in which a new rural civilization would emerge through the construction of new agrarian towns. These utopian settlements would constitute the Rural Alliance, based on cooperativism, where agriculture and industry would coexist harmoniously, thus eliminating the urban-rural divide⁹. However, in the 1920s, Greece, a largely non-industrialised and non-urbanised country, was lacking the motivation that had fuelled the Anglo-Saxon back-to-nature movement. In the end, the long-awaited agrarian reform was expedited by the influx of refugees caused by the Asia Minor Catastrophe of 1922, which put over a third of the population at risk of unemployment and starvation. In the light of this, the return-to-land movement was expected to function as a viable alternative to the suffering population and, eventually, protect the countryside from abandonment.

THE SCIENTIST AND THE FOREST

At the heart of the Pertouli experiment was forestry professor Anastasios Economopoulos; graduate of the Faculty of Natural Sciences of the University of Athens, with postgraduate studies in forestry in Vienna, on a state scholarship. In 1917, he was appointed professor at the newly-founded Faculty of Forestry in Athens, which inaugurated forestry as an academic subject in Greece. The school operated until 1928, when it became affiliated to the newly-formed University of Thessaloniki (UT), in Northern Greece, with the aim of training scientists in the fields of research, development, exploitation and protection of the Greek forests and woodlands¹⁰. According to Economopoulos, Pertouli was first discovered in the summer of 1923, on an educational field-trip with his students, and, as he writes, "since then, it has been the setting from where visions of forestry have sprang, a place of scientific experimentation, study, reflection, living experience and research, in line with the forestry of advanced European countries"¹¹. Two years later, in 1925, he embarked on a systematic study of forests¹² motivated by *The theory of forest types*¹³ by Aimo Kaarlo Cajander (1879-1943), Finnish botanist, professor of forestry and Finland's prime minister, which Economopoulos aspired to introduce in Greece. With this aim, he travelled to

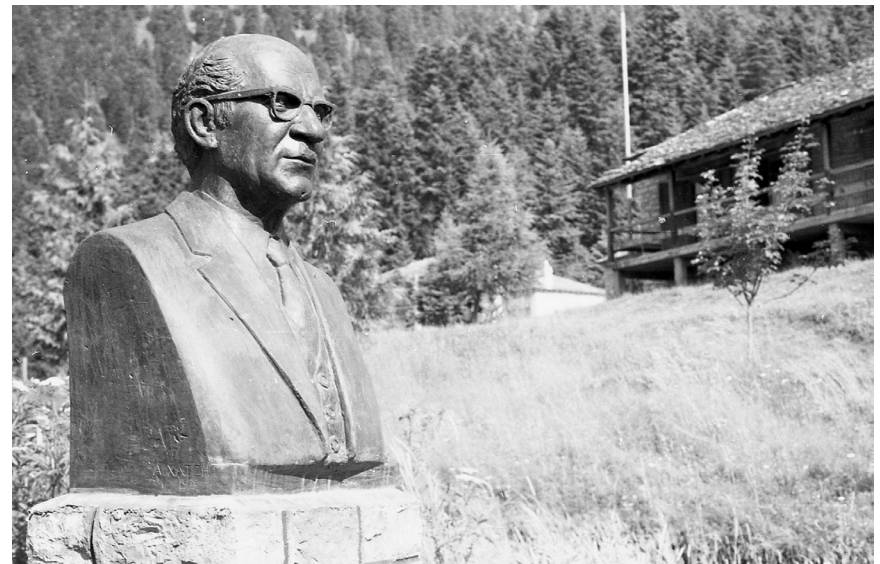
Finland in the summer of 1928 on a self-funded, month-long research expedition. From 1929 onwards, as professor of Forest Protection and Forest Management in Thessaloniki, he would work on his lifelong project, the Pertouli forest.

Ownership of the Pertouli forest was transferred to the modern Greek state via the Convention of Constantinople (24 May 1883). In 1930, following the mediation of famous mathematician Constantin Carathéodory (1873-1950) and the tireless efforts of the Faculty of Forestry, a petition was presented to the Greek government to place the forest under the purview of the UT for educational purposes. Part of the local population – approximately twenty families – opposed this prospect, claiming the usufruct of the forest and initiating a legal claim for the formal ownership of the land. Eventually, on 31 January 1935, Panagis Tsaldaris' administration (1933-1935) granted the exclusive ownership and use of the forest to the UT. Following this, the UT Forest Service established its presence in Pertouli in October 1935 and, one year later, initiated the construction of the sawmill, the planning and laying of forest roads and the demarcation of the forest, completed in 1937. Stone markers engraved with the initials UF (University Forest) were placed throughout the area, recalling Heidegger's Wegmarken (pathmarks) that remind wayfarers and rambles to stay on the path.

At the same time, the UT approached the Architectural Department of the Technical Service of the Ministry of Education to design a dormitory for the students of forestry who receive their practical training in Pertouli during the summer. The foundation stone laying ceremony of the building, designed by modernist architect Nikolaos Mitsakis (1889-1941), was held on 15 August 1940. Economopoulos' speech, then rector of the UT, echoed Thoreau, Nietzsche and Heidegger, as he argued that the precondition for a complete personality is the communication between psyche and nature:

We, human beings, are an organic part of the landscape, which, in turn, is an organic part of nature, to which [...] we all belong. [...] In the course of your interaction with nature and the theory of the forms of the landscape, you are given the opportunity to always ascribe these forms with something of the experience of your psyche that sprang when you first laid eyes on them [...]. [D]uring your stay here, you will take joy in physically connecting to the landscape, which also has its individuality [...]. [T]he effect of nature on your soul [...] will enrich your mental and spiritual world; this is expected to be of paramount importance for [...] your future life. During the first two decades, Economopoulos camped for

The bust of Forestry Professor Anastasios Economopoulos by the sculptress Alikí Hatzi (1923-1997). The wooden porch of the Forestry Service Station can be seen in the background. © Archimedes Athanassiou, 1976.



months-long periods in the forest, in a makeshift wooden hut, in order to conduct his research and monitor the construction of the sawmill factory, which, prior to WWII, operated on a 24-hour basis, in three shifts, employing more than 300 workers²⁷⁶. The scientist's hut, an unassuming construction dating from the late 1930s, survived the war, outlived its occupant and stood across the village in a ruinous state until the 1970s, as a monument to Economopoulos' transcendental experience, similarly to other historical examples mentioned below.

Henry David Thoreau (1817-1862), the foremost representative of American transcendentalism (1820-1830) - a romantic movement influenced by German Idealism - lived for two years, two months and two days, between 1845 and 1847, in a makeshift wooden cabin on the wooded shores of Walden Pond in Concord, Massachusetts²⁷⁷. As a social reformer, he advocated for civil disobedience, demanding better governance and social welfare. As a philosopher, he sought the meaning of human existence in dwelling in nature. Seemingly similar, though actually in a different vein, Norwegian Nobelist Knut Hamsun's (1859-1952) symbolic novel *Pan* of 1894 - where Lieutenant Thomas Glahn, a hunter and ex-soldier, lives with his dog Aesop in a cabin in the mountains - argues that happiness is attainable without an abundance of material goods; Thomas meets Edvarda, a girl from a nearby town, they fall in love, but their respective worlds collide, thus rendering their failing relationship an allegory of the conflict between nature and civilization. The novel was translated into Greek by Nirvanas, the symbolist poet who was also the first to publish a study about Nietzsche's philosophy in Greece. In Hamsun's novel, the purifying forest reconnects to its Germanic origin, where truth emerges from the dark depths onto the bright paths; notions that will reverberate in the Nazi rhetoric and its terrifying claim of racial purity. In 1922, Heidegger also acquired a small wooden house, *die Hütte* (approximately 6x7 meters) in the Black Forest [Schwarzwald] at Todtnauberg in southwestern Germany; an archetypal gesture that underpins the return to nature on the one hand and to pre-industrial social structures on the other. Both Economopoulos and Pikionis understood occasional isolation as a constituent element of the creative process; a return to a deeper identity or to the memory of a past self. Pikionis is known to have developed a preference for ascetic life, where recalling one's memory is a process of self-reflection that echoes the meditation of monks, who struggle to free themselves from the mundane reality of everyday life and live in spirituality. As Zissis Kotionis points out, the metaphor of the monk/painter or the monk/architect, one might add the monk/scientist, was deep-

ly embedded to the founding myth of Greece's cultural generation of the 1930s, as exemplified in Kazantzakis' *Ascesis*, written in 1922-1923, during the author's stay in Vienna²⁷⁸. According to Kazantzakis "a stone is saved if we lift it from the mire and build it into a house, or if we chisel the spirit upon it"²⁷⁹. Thus architecture is vested with historical conscience, where the memory of the past salvages the irreplaceable values of tradition, with, as T. S. Eliot wrote, "a perception, not only of the pastness of the past, but of its presence"²⁸⁰. A Freudian invocation of the memory of nature's, forest's and architecture's previous past would successfully transcend and manage this past through modernization, thus human agency would eventually lead to its rescue from obscurity and destruction.

THE ARCHITECT AND THE FOREST

In 1951, the University Forests Administration and Management Fund²⁸¹ was established at the Faculty of Forestry, with the aim of administering and managing the university's forests, the practical training of its students and the research conducted at the various model forestry estates. In 1953, the Forests Fund commissioned Pikionis to plan and construct a new settlement in Pertouli, which would include five different types of housing and administrative and community buildings, designed between 1953 and 1956. According to Alexandros N. Papageorgiou, Pikionis' collaborator, the Pertouli project had an experimental character from its very inception, which aimed at rendering resilient, maintaining, renewing and developing the forests of Pindos, while improving the living conditions of the people who worked in the forest and their families²⁸². He argues that the cultural landscape of Pertouli, as an integral part of a wider natural context and its ethos and as shaped by the local, time-honoured traditions of habitation, would have never allowed "a removal from the sense of permanence that the local vernacular inspires, thus rendering illusional all modern additions and the alleged cultural progress". He also claims that any attempt towards a modern interpretation of traditional dwelling ceases to make sense the moment someone arrives in Pertouli and encounters the majestic mass of Koziakas and the surrounding nature, where every substantive element of local tradition lies in place, unchanged by time:

For the modern individual who visits this region of Greece, the presence of nature and all the elements of human dwelling that serve as signifiers of local culture offer a categorical and inviolable frame of reference. Nature here is a symbol

View of the village of Pertouli from the Forestry Service Station.
© Archimedes Athanassiou, 1970.



of stability in a time of transition.¶¶

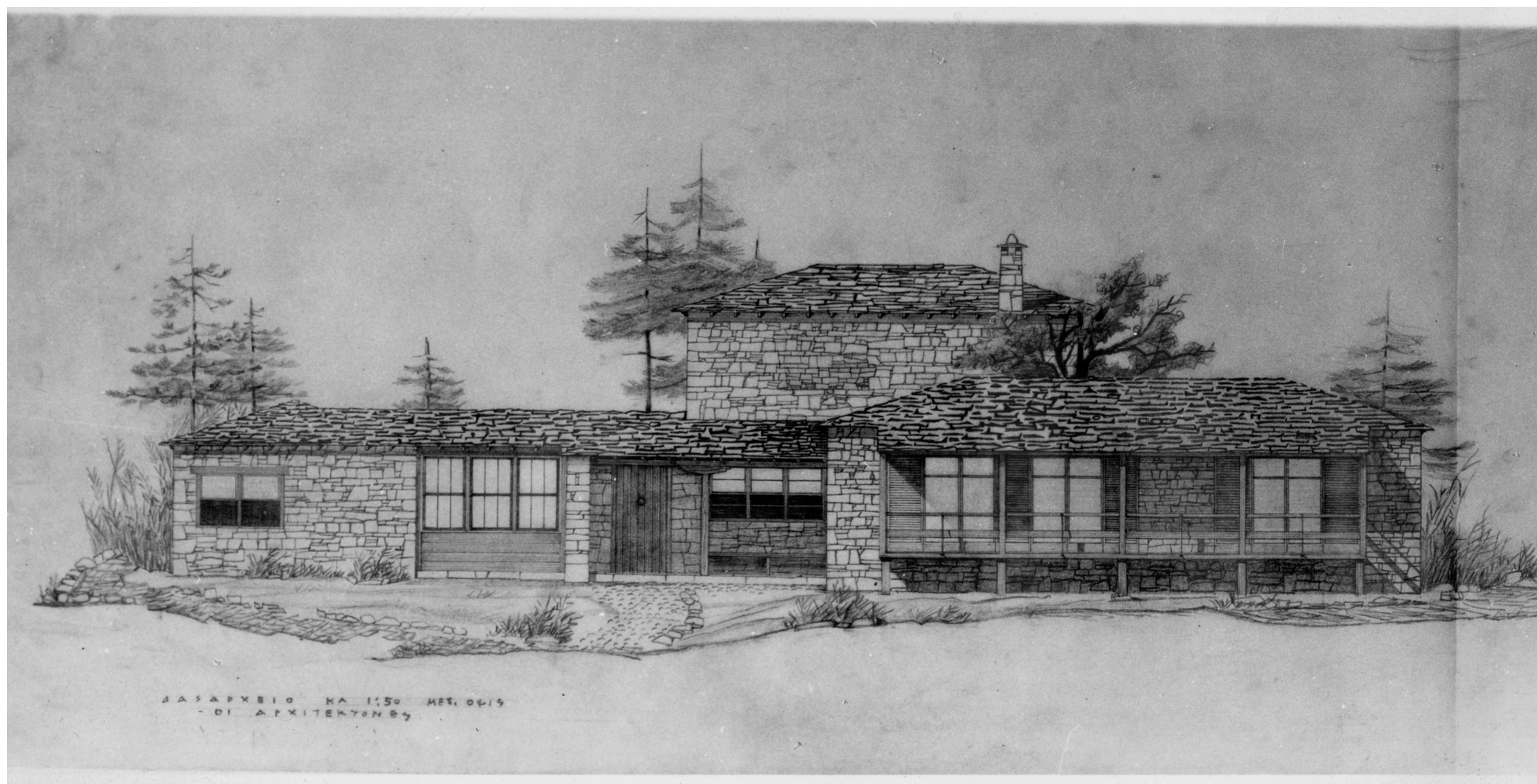
However, a retrospective formal analysis of Pikionis' architecture brings on morphological and functional traits that can be attributed to the modern vocabulary, while subtle references to the architecture of 17th century Japan also appear in his work.¶Λ, as in the timber-framed covered porch of the building of the Forestry Service Station, which echoes the pre-modern porches of villa Rinshunkaku (1649) or villa Gekkadon (1603), preserved in the Sankeien Gardens in Yokohama.¶┐. Before Pertouli, Pikionis had designed two unrealised projects for cooperative settlements.¶┐. Around 1934, Greek poet Angelos Sikelianos (1884-1951) asked Pikionis to design the Delphic Centre, his vision for an inclusive cultural community at Delphi.¶*. After WWII, Pikionis was commissioned to design a cooperative housing settlement at Aixoni (1951-1955), Attica, for an heterogeneous community of intellectuals and locals.¶┐. All three projects constitute organic compositions that comprise low-rise, free-standing structures with pitched roofs, rendered in natural, local materials, whose common denominator is an emphasis on the processional ascent of the uphill terrain and the choreographed succession of staged vistas that pace the experience of traversing the settlement. As Kostas Tsiambaos points out, Pikionis' plans for the Delphic Centre invoke the image of a traditional mountain village, where walking up the main, winding road feels like ascending to a crowning quasi-acropolis. In Pertouli, Pikionis renders his own version of *promenade architecturale*; an archetypal ascent that links antiquity with the vernacular, whose actual and symbolic crown at the top of the hill was the building of the Forestry Service Station.

Like Nietzsche and John Ruskin before him, Pikionis was also a keen walker and Rambler. He used to take long walks in the company of Nirvanas' poetry, among other works, that helped him reconnect with the surrounding nature. As he recalls:

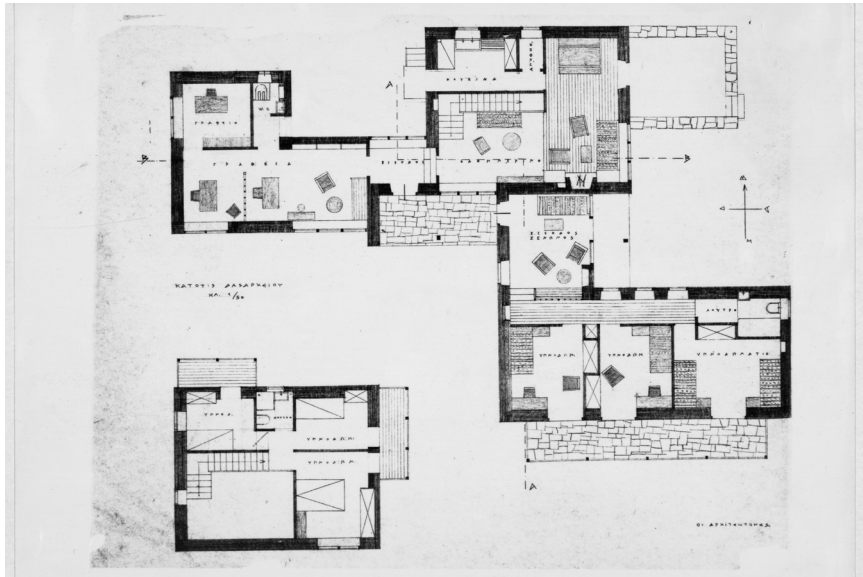
While still in high school, I often made frequent long walks, exploring the landscape of Attica. [...] But who can deservedly recount how these landscapes registered in the eyes of a young man on whom the magic veil of poetry was still cast. What did these solitary journeys mean to him. [...] Oh, what joy brings the unexpected sight of an unknown cliff, a cluster of olive trees.¶┐

Pikionis' reference to Goethe's 'magic veil of poetry' [der magische Schleier der Poesie] hints at an axiomatic relation between *truth* and *nature*. In Goethe's allegorical poem *The Secrets* [Die Geheimnisse], a young man wandering through a foggy landscape encounters a female figure, the personification of

South elevation of the Forestry Service Station in Pertouli,
designed by Dimitris Pikionis.
© Modern Greek Architecture Archives, Benaki Museum, Athens.



Plan of the ground floor (administration, guest house, and head forest manager's residence living room) and the first floor (head forest manager's residence sleeping quarters) of the Forestry Service Station in Pertouli, designed by Dimitris Pikionis. © Modern Greek Architecture Archives, Benaki Museum.



View of the entrance to the Forestry Service Station, designed by Dimitris Pikionis. © Archimedes Athanassiou, 1970.



Truth, who, by lifting the enveloping veil of fog, reveals the surrounding landscape as a gift to the youth, with the promise that the person who receives the gift of nature will always be happy and self-sufficient. Hence, an interesting parallel may be drawn between Goethe's inquiries and Heidegger's notions of the *forest* [Wald] and the *clearing* [Lichtung].

Evidently, Pikionis will keep returning to these philosophical pathways and clearings of his youth until the end of his life. In 1966, two years before his death, while preparing his inaugural speech at the Academy of Athens, entitled *The Study*, he gleaned various contemplative fragments of texts, the *Holzwege* of his thoughts, in an attempt to redefine his own *spiritual clearings* ¶. One such fragment comments on the way Leonardo da Vinci draws the high mountains in *The Virgin of the Rocks* [La Vergine delle Rocce I & II] (1483-1486):

My soul revered their forms, and revered the high mountains in the background. Already readied for this reverence of the mountains by [studying] Ruskin [...] I recall his words from his *Gates of the Hills*. ¶

Pikionis refers to John Ruskin's (1819-1900) *Modern Painters* ¶, which deals with the description, representation and glorification of the beauty of the mountains. As Michalis Parousis comments, Pikionis identifies himself with Ruskin, whom he considers his mentor, and aspires to return to the Black Forest and to the views of the high mountains, in the same way that Ruskin kept returning there, as narrated in his unfinished autobiography *Praeterita* ¶. Pikionis has been described as a Victorian, who represents the embodiment of the Ruskian ideal in interwar Greece, on the basis of, among other things, their shared love for the German mountains and their common search for truth in nature ¶. However, according to Dimitris Philippides, he cannot be interpreted exclusively as a continuation of 19th century European tendencies, as the Greek architect drew from many sources of inspiration, such as Neoplatonic philosophers, Asian culture, Orthodoxy, and the nascent modernism in art and architecture of his time ¶. Hence, the contradictions in his work, which are representative of the ambiguity of the 1930s.

As Zissis Kotionis points out, there is an inverted reality in the architect's thinking. When in Germany, he reads Aeschylus and is nostalgic for Greece, or rather the construct of Greece as imagined by the Germans through fragments of ancient literary discourse. Once back in Greece, Pikionis becomes the kind of thinker who draws his metaphysical connection to his land from the German idealist discourse, thus reconstituting a non-Greek helleno-centrism ¶. For Kotionis, it is clear that the distinction

between *european hellenism* and *greek hellenism* is a conscious contradiction in Pikionis' work that held true till the very end of his life. Again, Kotionis points out that in Pikionis' drawings:

the 'memory of the earth', solid and holistic, could not be subordinated to the demands of an analytic approach, which waives the solidity of appearance and resorts to the individual drawing – a fragmented architectural representation – of the object through elevations, plans, sections. ¶

In his designs for Pertouli, the buildings seem to be the pretext that allows Pikionis to sketch the dense forest with its tall fir trees in all their glory.

EPILOGUE

Pertouli was a pioneering experiment that, in its full development, lasted from 1935 to 1964. Today its forest is still under a special status of protection and sustainable management, i.e., in a way and at a rate that maintains its regeneration. This analysis both touches upon the political and economic history of the country during the interwar period and tackles issues of national identity, a topical concept at the time. This interpretation is largely anthropocentric, in the sense that all discussions about nature and the environment are inescapably anthropocentric; the history of the forest is inextricably intertwined with human history. The Pertouli project, an ambitious developmental and educational experiment, marks an attempt to reconcile the modern with the pre-modern world for the benefit not only of the locals or the scientific community, but also for the wellbeing of the forest, i.e., its growth, conservation and sustainable management, which requires the human presence and toil to ensure its rebirth and as a safeguard against human-driven destruction. Therefore, this chapter argues that forest habitation is not necessarily a case of forest/nature exploitation by humans. It also highlights the deepening contradictions of the perception of nature, and specifically the forest, in the Interbellum, as well as the diverse origins of the return-to-nature movement, as an ideological counterweight to the onrushing modernism of the time and its sweeping ideal of progress. For Economopoulos and Pikionis, professors of forestry and architecture respectively, connecting with mother nature was signposted by German idealism, whose philosophical core, alongside facets of interwar modernism, can be detected in the Pertouli project. The Pertouli forest of tall and proud fir trees triggered the development of a rare example – for Greek standards – of scientific, environmental, social and architectural harmonious cohabitation, where a freudian invocation of the deeper memory

Elevation of the foresters' residences, sketched by Dimitris Pikionis.
© Modern Greek Architecture Archives, Benaki Museum, Athens.



of nature, the forest, architecture and their assimilation by the modern condition and interplay with human presence will lead to their salvage. For Economopoulos and Pikionis, Pertouli was a path back to the clearings of truth, a return to the spiritual homeland of the high mountains and the proud forests of their youth.

View of the Koziakas mountain.
© Archimedes Athanassiou, 1973.



✠ Then professor at the School of Architecture, National Technical University of Athens.

✂ N.D. Hasanagas, *Landscape Sociology* [Κοινωνιολογία του τοπίου] (In Greek), Papasotiriou, Athens 2010, p. 103.

⇓ Tacitus, *Germania* [De Origine et situ Germanorum]. In the 5th chapter Tacitus comments: “Terra esti aliquanto specie differt, in universum tamen aut silvis horrida aut paludibus foeda, umidior qua Gallias.”

♠ J. Radkau, “Wood and Forestry in German History: In Quest of an Environmental Approach,” *Environment and History*, vol. 2, 1, February 1996, special issue: Lammi Symposium, pp. 63-76, doi:10.3197/096734096779522482.

ℒ V.H. Miesel, “Philipp Otto Runge, Caspar David Friedrich and Romantic Nationalism,” *Yale University Art Gallery Bulletin*, vol. 33, 3, October 1972, special issue: Correlations between German and Non-German Art in the Nineteenth Century, pp. 37-51.

ℒ M.E. Bolland, *Nietzsche and mountains*, Durham Doctoral Thesis, Durham University, 1996, <http://etheses.dur.ac.uk/1579>, accessed 14 October 2022.

✱ M. Heidegger, *Off the Beaten Track* [Holzwege], trans. J. Young and K. Haynes, Cambridge University Press, Cambridge 2002.

ℒ Sophia of Prussia, born in Potsdam, was the daughter of Emperor Frederick III and granddaughter of Queen Victoria of Great Britain. She married her third cousin Constantine in 1889, future King of Greece from 1913-1917 and 1920-1922.

ℒ Forest scientists Petros Kontos (1874-1941) and Konstantinos Samios, the minister of Finance Fokion Negris (1846-1928), and the Smyrna engineer-metallurgist Andreas Kordellas (1836-1909), <http://www.philodassiki.org/>, accessed 13 January 2023.

✠ P. Nirvanas, *The Forest* [Το Δάσος] (In Greek), Government Publishing Office, Athens 1916.

✠✠ Interwar Greece's agrarian reform, i.e., the compulsory expropriation of large land holdings from the Greek State and their redistribution to landless farmers – provisioned in the Constitution of 1911 – was instituted in 1917 by Andreas Michalakopoulos, minister of Agriculture in Eleftherios Venizelos' administration (1917-1920) and was finally implemented by his successor, minister Georgios Kafantaris (1873-1946) with Law 2052/1919.

✠✂ In 1921, with the electoral defeat of Venizelos, a committee of university professors suggested that textbooks in the demotic vernacular language should “be burned as works of falsehood and evil intent and to prosecute those responsible” as these textbooks were considered

harmful for the language, the homeland, religion and family values.

✠⇓ Law 893, *Government Gazette* A(202), 18 September 1917.

✠♠ In 1926, as Minister of Agriculture in the Alexandros Zaimis (1855-1936) administration, he strengthened the agricultural sector by establishing autonomous organisations for the collection and management of products, while in 1929 he founded the Agricultural Bank.

✠ℒ A-A. Kyrtsis, “A. Papanastasiou and early 20th century theories of social reform” [Ο Α. Παπαναστασίου και οι Θεωρίες Κοινωνικής Μεταρρύθμισης των αρχών του 20ού αιώνα] (In Greek), *Historika*, 9, 1988, p. 63-77.

✠ℒ In 1924, Drakoulis founded the Hellenic Society of Rural Cities in order to promote his ideas.

✠✱ Law 3577, *Government Gazette* A(112), 30 June 1928: “On the ratification and amendment of the Law of 6 October 1927,” “On the annexation of the Faculties of Forestry and Agriculture to the University of Thessaloniki.”

✠ℒ A. Economopoulos, “Letter to the members of the Directing Board of the University Forests Fund,” in *Basic Forestry Issues in Pertouli* [Βασικά Θέματα της Δασοπονίας Περτουλίου] (In Greek), M. Triantafyllou & Sons, Thessaloniki 1964, p. 3.

✠ℒ A. Economopoulos, *Report on the scientific research carried out from 1929 to 1931* [Εκθεσις περί των από του έτους 1929-1931 εκτελεσθέντων επιστημονικών ερευνών] (In Greek), University of Thessaloniki, Thessaloniki 1931.

✂✠ A.K. Cajander, *The theory of forest types*, The Printing Office of Society for the Finnish Literary, Helsinki 1926, <https://www.silvafennica.fi/article/7193>, accessed 13 January 2023.

✂✠ Law 4173, *Government Gazette* A(205), 19 June 1929: “On the ratification and amendment of the Legislative Decree of 11 May 1929 on the forest code,” article 62.

✂✂ Law 6320, *Government Gazette* A(356), 17 October 1934: “On granting the use of public forests to the University of Thessaloniki for educational research purposes etc.” See also Legislative Decree, *Government Gazette* A(448), 28 December 1934: “On granting the use of public forests to the University of Thessaloniki for educational and research purposes.” A protocol signed between General Inspector of Forests Petros Ioannidis and Inspector of Forests of Thessaly Alcibiades Giannakopoulos on behalf of the State, and professors Petros Kontos and Anastasios Economopoulos on behalf of the UT.

✂⇓ M. Heidegger, *Pathmarks* [Wegmarken 1919-1961], trans. & ed. William McNeil, Cambridge University Press, Cambridge 1998.

✂♠ N. Mitsakis, “The University of

Thessaloniki Students' Dormitories in Pertouli” [Το Σπουαστήριο Φοιτητών Πανεπιστημίου Θεσσαλονίκης] (In Greek), *Technical Chronicles* [Τεχνικά Χρονικά], vol. 17, 196, 15 February 1940, pp. 141-143, <http://library.tee.gr/digital/techr/1940/techr>, accessed 13 January 2023.

✂ℒ A. Economopoulos, “Speech on the foundation ceremony delivered on August 15th, 1940 on the site of the erection of the branch of the University Club of Thessaloniki at Pertouli,” in D. Louca, A. Papaioannou, *Pertouli: Settlement, Natural Environment, History* [Το Περτούλι: Οικισμός - Φυσικό Περιβάλλον - Ιστορία] (In Greek), Cultural Association of Pertouli, Trikala 2009, pp. 353-358.

✂ℒ The factory closed in the 1960s.

✂✱ Thoreau's account of his experience at the pond was recorded in his 1854 book H.D. Thoreau, *Walden; or, Life in the Woods*, Oxford University Press, Oxford 2008.

✂ℒ Z. Kotionis, *The question of origin in Dimitris Pikionis' work* [Το ερώτημα της καταγωγής στο έργο του Δημήτρη Πικιώνη] (In Greek), Technical Chamber of Greece, Athens 1998, pp. 228-229.

✂ℒ N. Kazantzakis, *Ascesis – Salvatores dei*, trans. K. Friar, <http://www.angel.net/~nic/askiti-ki.html>, accessed 25 September 2022.

⇓✠ T.S. Eliot, “Tradition and the individual talent,” *The Egoist*, vol. VI, 4, September 1919 and vol. VI, 5, December 1919. See also: *Perspecta*, 19, 1982, pp. 36-42.

⇓✠ Law 1881, *Government Gazette* A(210), 30 July 1951, “On the establishment of a Fund for the Administration and Management of the University Forests at the University of Thessaloniki.”

⇓✂ A.N. Papageorgiou, “Forest village in Pertouli 1953-1956” [Δασικό χωριό στο Περτούλι 1953-1956] in A. Pikionis (ed.), *Pikionis*, vol. V, *Dimitris Pikionis Architectural Work 1949-1964* [Δημήτρης Πικιώνης Αρχιτεκτονικό Έργο 1949-1964] (In Greek), Basta-Plessa, Athens 1994, pp. 49-72.

⇓⇓ Ivi, pp. 371-372.

⇓♠ A. Loukaki, “Pikionis and the East,” in Id., *The Geographical Unconscious*, Ashgate Publishing, Farnham/Burlington 2014, pp. 301-335.

⇓ℒ Sankeien Garden, a traditional Japanese garden in Yokohama, was built in 1906 by silk merchant Sankei Hara. It contains many important buildings of traditional architecture, which Hara had spotted in various parts of the country, bought and moved them to the garden to save them from destruction.

⇓ℒ P. Psomopoulos, “Dimitris Pikionis: An indelible presence in modern Greece,” *Ekistics*, vol. 60, 362-363, September-December 1993, pp. 253-275.

⇓✱ K. Tsiambaos, “The Delphic Utopia” [Η Δελφική Ουτοπία], in K. Tsiambaos *Ambiguous Modernity* [Αμφίθυμη Νεωτερικότητα] (In Greek), Epikentro, Athens 2017, pp. 45-107.

⇓ℒ D. Pikionis, “The spirit of tradition” [Το πνεύμα της παράδοσης, 1951] and “Aesthetic principles of the architecture of the Housing Settlement in Aixoni” [Αισθητικές αρχές της αρχιτεκτονικής του Αιζωνικού Συνοικισμού, 1952], in Id., *Texts* [Κείμενα] (In Greek), MIET, Athens 1987, pp. 157-159 and pp. 255-258.

⇓ℒ K. Tsiambaos, *op.cit.*, pp. 77-78.

♠✠ D. Pikionis, “Autobiographical notes” [Αυτοβιογραφικά σημειώματα, 1958] (In Greek), in Id., *op.cit.*, pp. 23-35.

♠✠ M. Parousis, “*The Study*: The dreams-capes of Dimitris Pikionis” [‘Η Μελέτη’: Τα ονειρικά τοπία του Δημήτρη Πικιώνη] in P. Pantelakis, A. Pikioni, G. Sarigiannis (eds.), *Dimitris Pikionis: A tribute to the centenary of his birth* [Δημήτρης Πικιώνης: Αφιέρωμα στα εκατό χρόνια από τη γέννησή του] (In Greek), National Technical University of Athens, Athens 1989, pp. 211-226.

♠✂ Ivi, p. 219.

♠⇓ J. Ruskin, “Of Mountain Beauty,” in *Modern Painters IV*, Part V, Smith, Elder, and Co., London 1856, pp. 166-186.

♠♠ J. Ruskin, “Schaffhausen and Milan,” in E.T. Cook, A. Wedderburn (eds.), *The Works of John Ruskin*, Cambridge University Press, Cambridge 2015, pp. 104-119. See also: J. Ruskin, *Praeterita*, George Allen, London 1907, pp. 146-171.

♠ℒ On Ruskin's books in Pikionis' library see: K. Tsiambaos, *From Daxiadis' Theory to Pikionis' Work: Reflections of Antiquity in Modern Architecture*, Routledge, London & New York 2018, pp. 73-74.

♠ℒ D. Philippides, *Modern Greek Architecture* [Νεοελληνική Αρχιτεκτονική] (In Greek), Melissa Publishing House, Athens 1984, pp. 182-183.

♠✱ Z. Kotionis, *op.cit.*, p. 70.