

Changing the landscape into valley areas

João Ferreira Nunes

joao.nunes@proap.pt

Landscape Architect, PROAP - Estudos e Projectos de Arquitectura Paisagista, Lisboa, Portugal

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Resumo

Resultado de uma conferência proferida no âmbito dos Seminários I e III “Habitar o Espaço Público”, com a coordenação de Bárbara Silva. Este texto discute o propósito e os princípios que, hoje, presidem a intervenções de transformação da Paisagem a partir da observação de áreas de vale.

A Paisagem constrói-se por sobreposições sucessivas, num processo que se iniciou em Eras geológicas há muito passadas, mas em que se verificou exatamente o mesmo tipo de processo que, hoje, justifica a mesma tectónica - por sobreposição - na construção dos diferentes estratos do Antropoceno: a Paisagem corresponde à inscrição de marcas no mundo que resultam de processos únicos, que se verificam, durante mais ou menos tempo, mas apenas uma vez.

O período geológico Carbonífero é um excelente exemplo dessa irrepetibilidade - iniciado com o momento em que as plantas se começaram a desenvolver na Terra, eventualmente descendentes das algas que, primeiro que todos, “inventaram” a fotossíntese, vão-se acumular durante milhões de anos os seus materiais constituintes não decompostos, uma vez que as bactérias e fungos então existentes não tinham a capacidade de sintetizar as enzimas necessárias à decomposição das plantas. A partir do momento em que bactérias e fungos “descobrem” como fazê-lo, as plantas deixam de se acumular sem decomposição e os seus materiais constituintes, em vez de se acumularem em espessas camadas, que constituirão os carvões minerais e os petróleos do futuro, são decompostos, reusados e reintroduzidos nos processos ativos do mundo, estabelecendo-se um limite que determina também a irrepetibilidade futura da condição a que corresponde o período geológico.

O que mudou tem, de certa forma, que ver com conhecimento, com o conhecimento, por parte das plantas, das técnicas extraordinárias para estabelecer a incrível ponte que liga o mundo mineral ao mundo vivo, para transformar moléculas minerais de Oxigénio, Dióxido de Carbono,



Vapor de Água, com o conhecimento, por parte das bactérias e fungos que decompõe os materiais vegetais, das técnicas e dos instrumentos necessários à desmontagem dos materiais vegetais nos seus elementos constituintes... Da mesma forma, pensando agora nas regras da tectónica do Antropoceno, o conhecimento de novas tecnologias tem vindo a transformar a Paisagem, e o exemplo da generalização da tecnologia dos motores a explosão é um excelente exemplo... mas também o conhecimento, para além da novidade tecnológica, gera mudanças na forma de entender o Mundo: por exemplo, drenar uma zona húmida, um pântano infértil e doentio, para produzir terreno agrícola para a produção de comida, que durante milénios foi considerado um benefício consensual, é considerado, hoje, um crime ecológico. Os valores alteraram-se.

O que antes era visto, consensualmente, como uma vantagem e um benefício coletivo, passou a ser visto como um crime punível por lei. E isto porque se descobrem coisas, se aprofundam os conhecimentos sobre processos que pareciam benéficos, mas que, de facto, escondiam armadilhas invisíveis.

A paisagem vai-se desenhando em constante dinâmica e em consonância com os valores vigentes. A nossa capacidade de perceber as coisas vai definindo a nossa relação com o mundo, e o modo como o transformamos. Ao longo do tempo o homem foi transformando o território, acreditando que o estava a fazer da melhor maneira ou, simplesmente, desconhecendo as possíveis consequências negativas.

Não que os que viveram antes de nós fossem criminosos... Não podemos julgar o pensamento dessa época de acordo com o que se pensa nos dias de hoje. A necessidade de solo produtivo na época medieval era política, mas era também proporcional à frequência com que as populações eram expostas à fome... Por outro lado, as zonas húmidas não eram, como são hoje, uma raridade. Da mesma maneira, em relação ao modo como a Paisagem dos Vales se foi construindo, podemos aplicar essa forma de pensar.

Nos Vales, os problemas de construção do território são problemas de negociação entre continuidades... A grande questão é decidir que tipo de continuidade nos interessa privilegiar em cada momento. O texto segue uma sequência de imagens, apresentadas ao público em projeção ou desenhadas no momento, pelo que a presente transcrição poderá, em alguns momentos, parecer sinuosa e destruturada, pelo que se considera que a referida sequência de imagens deverá fazer parte integral deste texto.

Palavras-Chave: arquitetura paisagista, Lisboa, vale de Alcântara, paisagem

Abstract

This text discusses the purpose and the principles of changing landscape into valley areas and it was written following a conference given in the scope of Seminars I and III, "Inhabiting the Public Space", coordinated by Barbara Silva,

The landscape is built by successive overlaps, in a process that began in geological eras long ago, when the type of process that justifies today the same tectonics - by overlapping - in the construction of the different strata of the Anthropocene took place: Landscape inscribes marks in the world that are the result of unique processes which may occur for shorter or longer periods, but which take place only once.



The Carboniferous geological period is an excellent example of this unrepeatability - starting from the moment when plants began to develop on Earth, eventually descendants of the algae that first "invented" photosynthesis, their undecomposed constituent materials have accumulated for millions of years since the then existing bacteria and fungi could not synthesise the enzymes necessary for plant decomposition. From the moment bacteria and fungi "discovered" how to do this, plants ceased to accumulate without deterioration, and their constituent materials, instead of getting in thick layers, which would constitute the mineral coals and petroleum of the future, were decomposed, reused and reintroduced into the active processes of the world, establishing a limit that also determines the future unrepeatability of the condition to which the geological period corresponds.

What has changed has, in a way, to do with knowledge, with the knowledge that plants acquired about the extraordinary techniques to establish the incredible bridge that links the mineral world to the living world, to transform mineral molecules of Oxygen, Carbon Dioxide, Water Vapour, with the knowledge that bacteria and fungi gained that decompose plant materials, of the techniques and instruments necessary to dismantle plant materials into their constituent elements... In the same way, thinking now of the tectonic rules of the Anthropocene, the knowledge of new technologies has been transforming the Landscape, and an excellent example of this is the generalisation of the technology of explosion engines... but also ability, beyond technological novelty, generates changes in the way we understand the World: for example, draining a wetland, an infertile and unhealthy swamp, to produce agricultural land for food production, which for millennia was considered a consensual benefit, is today considered an ecological crime. Values have changed. What used to be viewed as an advantage and a collective benefit is now a crime punishable by law. And this is because things are being discovered, and knowledge is being increased about processes that seemed beneficial but which, in fact, hid invisible traps.

The landscape is designed dynamically and according to the values of the era. Our capacity to perceive things defines our relationship with the world and how we transform it. Over time, humanity has changed the territory, believing they are doing it in the best way or simply unaware of the eventual negative consequences.

Not that those who lived before us were criminals... We cannot judge the way of thinking in the past according to what is believed today. The need for productive soil in medieval times was political, but it was also proportional to the frequency with which populations were exposed to famine... On the other hand, wetlands were not, as they are today, a rarity. We can also apply this to how the Valleys Landscape was built.

In Valleys, the construction of the territory is a problem of negotiating continuities... The big issue is to decide which type of continuity we are interested in privileging at each moment. The text follows a sequence of images presented to the public or drawn at the moment, resulting in this text, at times, long winding and discontinuous.

Keywords: Landscape architecture, Lisbon, Alcantara Valley, landscape

1. Introduction.

A valley is a topographic morphology that can occur at different scales and shapes. It is a core landscape element, and understanding its functioning is crucial in designing changes.

Linked to the shape and size of the valley and the resulting parameters and weather conditions, we can describe the water metabolism in the landscape, its flows, its origin, its two positions and their variability over time, seasonal variations, long times, variations in size and, consequently, in the position of water lines.

Water has always been fundamental as a resource for animals and plants, as raw material for production, as a vehicle, and as energy to run mills, watermills, fulling mills, sawmills, and factories.

The river water was valuable energy used to move, transform, produce, and distribute. When we started to get alternative forms of energy and supply for urban centres, we turned our backs on rivers and slowly let them turn into sewers, whose only function was removing what we did not want in the city. Roads and mobility infrastructures became the focus of city construction.

Other systems were overlaid with the natural water line systems, which were diverted, closed, and covered to provide more city space. This change, considered a more abstract and conceptual aspect, discusses the idea of “continuity” and priority and hierarchy allocation to the different continuities in the landscape.

Do we want to advocate the functional continuity of the water line or the continuity of its design? Do we endorse the priority of the continuity of the water line or that of the highway that crosses it?

This is the core negotiation linked to the sudden change of scale, and way of life, which has made consumption areas related to production areas through physical systems developed in the valleys. How can fresh produce get to cities? How can people get to the Cities? How to set priorities in space competition in the valleys whose area will not be enough for everything?

Let's look at the landscape around Lisbon. We realise several valley saturation issues, saturation and competition among the different functions compete for space with the water lines in limited valley spaces.

And it is only when this saturation happens that cities are made aware of the increasing drainage issues. The biggest problem of climate change in cities is not the rise in sea level but the radical change in rainfall intensity and the flow of rainwater in systems currently under-sized.

The issues deriving from the rise in sea level are mitigated by the natural adaptive processes of coastal sedimentation, which will respond seamlessly to the slow increase



in sea level, which in other climatic cycles will decrease; moreover, they can be actively counteracted through simple constructive actions.

As cities become denser and our infrastructure construction processes worsen rainfall water drainage conditions due to climate change, reducing basin concentration times, accelerating flows through pipelines, waterproof surfaces and collectors, thus increasing the probability of floods.

In the Alcantara Valley in Lisbon, there is an issue related to the direct use of land and infrastructure and a case of size. The infrastructures linking the country's north to south flow through this valley. This is not a Lisbon problem, it has to do with the whole continental territory, and the pressure that large infrastructures have on the basin is not a local issue but a national and regional issue.

We must start analysing the city regarding its areas (*freguesias*), neighbourhoods and streets, and large territorial infrastructures. Otherwise, we will not understand the problem as a whole.

The infrastructural issues in the Alcantara Valley must be included in a national planning discussion.

When we analyse the city of Lisbon, specifically the Alcantara Valley, we can understand that the territorial planning aimed to define borders when Lisbon began to expand. Look at Monsanto Park, for example. It is a border that uses the physical discontinuity of the valley to block, cover, and close.

It was not aimed at establishing continuity but rather the opposite - to control the irregular expansion of the city. At that time, and in that context, this idea made sense.

Issues and solutions are rooted in time, which is how the world moves forward. We are here to work, to find an answer in a specific dynamic and context. However, in twenty years, what we discuss today will be utterly outdated as new ways of living and understanding the city and its territory will emerge.

So, if what interests you in architecture is the formal definition of an object, you are wasting your time. This is not the tool to solve issues. It has never been one. The mechanism to solve problems is to think about how this vocabulary, this language, can transform a territory through the relationships it establishes and how these relationships can adapt to new conditions whose needs we cannot predict.

We are designing relationships today; we are interested in something other than objects. Objects are of interest as tools to create and solve issues, and their formal value is part of a culture that I consider entirely outdated.

I believe that, at this moment, we have to look at architecture as a producer of active relationships and not as a producer of objects meant to be photographed rather than lived in or to fulfil a function in a social context; they are symbols of themselves or of the vanity of architects. Relationships that encourage people to interact with each other or with other communities, that is, to build the city.



“Establishing relationships” is the most current theme we can imagine in a world dependent on the Internet....

The school where I teach, the Academy of Mendrisio, is now working on the city of Brussels on the topic Diploma - building culture.

For a few days, we were immersed in the City, trying to figure out how the city had changed and how the city had built relationships among people. We realised that much of this change had taken place through culture. Culture is construction.

In Brussels, we admire a culture that claims to be “one”, but we know that there are ten thousand cultures underlying. The true cultural manifestation is people's lives, which are much more interesting than the objects produced by the dominant culture....

The fact is that, when we talk about Brussels or do research on Brussels, two things appear: the role of Brussels in European politics and the role of Brussels in culture; the role of Brussels in culture is an objective intentional construction. Hundreds of millions of euros have been invested in building the city's cultural identity. Artists have become values and aware of who produces a product. And the relationship that makes the artistic dimension of these groups has become much more relevant than the objects.

In Portugal, we tend to resist recognising values and accepting heroes. Our heroes only get recognised when they are dead and do not threaten anyone... During their life, the community they served and served well does not acknowledge their value... If we were to go against this trend, we could perhaps build collective values that would help create a cultural identity built on admiration and based on celebrating rather than envying others.

In the Alcantara Valley, the territory discussed in this workshop (which is taking place in the scope of the seminars on “Inhabiting the Public Space”), we want to transform the existing construction radically: the border around the city of Lisbon - Monsanto park - which states “the city ends here”. And we are here saying that it does not end there, that the consistency of this border can be discussed... that it perhaps makes sense to look at the park from another perspective. Monsanto is a forest park; it is not an urban park. It wasn't designed for people to walk around, spend the day with friends, or have a picnic. The equipment in the park does not visually relate to its surroundings; it has nothing to do with walking around, and it is not there for human activity. We have a stadium to which we arrive by motorway, i.e., it leads to temporary rather than continuous, repeated meetings.

When Monsanto Park was designed, Joaquim Rodrigo's practical challenge (he was better known as an extraordinary painter and a forest engineer) was to plant trees in what was a desert due to centuries of intensive grain farming for Lisbon. The conceptual challenge was to devote considerable space to an almost invisible social function - the green lung - and thus materialise a hygienic design of space and the relations between major city areas and mark the city's borders....



Our challenge today, when Monsanto Park changed from a Forest Park to an inhabited Park, has been to reverse the idea of border, reinterpret this function and invent a new relationship with what existed before.

The second challenge is to completely reverse the idea that the structure of the Alcantara Valley is longitudinal because it is the support of successive infrastructures that overlap and find their meaning through different transversal profiles.

The studies made for the WWTP resulted in an exciting amount of documentation on the successive changes in Alcantara, namely on the relevance given to longitudinal connections, following the largest dimension of the valley, in opposition to the transversal ones, which were initially more relevant.

Alcantara tends to be infrastructural because of its positional, topological, geological position, stability, and border situation.

Everything infrastructure is in the valley, starting with the first railway lines, given the place's topography and geology.

The Alcantara hydrological basin is relatively small. Still, it plays a vital role due to its shape and slope, making this a rich and productive valley, but also demanding in terms of the space for drainage.

Competition for space for the different functions that develop longitudinally - infrastructures and drainage - is typical of this valley, evidencing the continued weakening of cross connections, entirely erased by the extensive longitudinal links and replaced by large-scale links, with highly concentrated flows.

The hydrological issue is topological since different areas of a hydrological basin are linked together and share everything that happens within, regardless of the linear distance between them. Even if they are immediately connected, the headwaters of contiguous basins work in different metabolites and have fragile relationships.

Geologically, the Alcantara valley is a basalt-limestone mixture, very typical of this area and some areas on the Campo de Ourique side and the Monsanto and Tapada da Ajuda sides.

The mother rock is basalt, derived from volcanic eruptions, and limestone, pieces of previous sedimentary strata that "float" in eruptive materials and offer beautiful contrasts between very dark lands, with black stones with white limestone flecks. I believe that this geological condition marked several aspects of the City's architecture, for instance, the designs of the sidewalks.

How basalt and limestone respond to water, erosion and infiltration issues is completely different and causes different plant strata. These contrasts extend to all aspects of city life and generate great diversity characteristic of Lisbon.



When we analyse the topography of the valley and overlap this topography with the geological plant, we can very clearly perceive the direct correspondence between the topography and the genetic reasons for this topography.

A German geographer, Alexander Humboldt, was interested in scientifically explaining the relief and understanding the shape... Before him, relief was observed, drawn and celebrated in landscape paintings, it was technically represented in topographic surveys, but it was not explained.

Just as the landscapes change, so does scientific knowledge.

Everything is constantly moving - an ocean expands while another ocean contracts. For us, who studied after the sixties, this is part of our cultural heritage and is an indisputable idea.... We were taught to consider Pangeia's theory, which explains the movement of tectonic plates.

But this theory was presented at the beginning of the 20th century, when Alfred Wegener observed the shape of South America and Africa, whose coastal lines formed a perfect fit, and suggested that they had been together at some point in the geological past. This theory was ridiculed for decades, and its representation model was scientifically discredited.

Only after WWII did the theory earn some credibility, recently being taught in schools.

This increase in knowledge, as it occurred regarding plants and bacteria and fungi, will make the world in which we imprint our signs, the landscape that we build in light of this knowledge, become a different world because it was created based on the concept of a unique and dynamic world, in contrast to a divided and static world, made of differences and barriers.

Likewise, our generation and yours, therefore, cannot, upon deciphering the DNA helix and discovering that the stranger who travels next to us on the subway, who has a different skin colour, hair texture, eyes, height, etc., shares our DNA, not much different than our blood brother, after knowing all this we cannot build a world the same way as before.

The awareness of a unique and dynamic world inhabited by a humanity that is a large family, genetically very similar, is a starting point for transforming the world that will undoubtedly lead to surprising results.

Landscape and domestication

In terms of interpreting the world, what is happening globally influences our interpretation of places. Understanding places involves deciphering relief, topography, plant position...

Landscape as an artefact is built with tools different from those used to make artefacts; on the one hand, the tools used to produce artefacts through fabrication...



Artefact manufacturing processes are assembly processes of scattered elements, not related initially, and whose new relationships produce new results...transforming the world. A chair, a mobile phone or a building are made from scratch; before production, these artefacts did not exist at all, they were unimaginable, and the transformations that would bring to the world and the landscape were unimaginable. ...another characteristic of the production of artefacts by fabrication is the fact that the human body is transversally used as a measure...from the mobile phone to the city, all manufactured artefacts relate metrically to the human body.

Another instrumental set of artefact production is domestication ...In this context, artefacts are produced like all animals and plants that are part of the domesticated world - almost precisely coincident with today's world.

The instrumental context of domestication in creating the landscape differs from that of manufacturing by not starting from scratch - the artefacts are extensions of the natural transformed over time - and symmetrically, because it does not have a final moment... if the result of a domestication process ceases to interest a community, it adapts, transforms, or disappears without physical traces of its active presence.

On the other hand, the artefact produced by domestication is not constructed considering the human body as *standard*, as a measure, but based on the dimensions inherent to the domestication process itself and the significant, domesticated metabolites.

When designing terraced systems in the mountain, the terraces have to be accessible to people, to grow plants, etc., but what influences the topography of the terraces is the mountain itself: the land's consistency and the slope's angles.

The same occurs when we design dikes, the domestication processes of riverbanks...

The size of the human body, unlike what happens in manufacturing artefacts, is only helpful in defining conditions for access, maintenance, and work. Still, it is not the architectural basis, as in buildings. Here, all measurements are coordinated by this matrix based on our shape and size.

Our starting point, our standard, all we have to understand to work is pre-existence. If we do not understand pre-existence, we can never do a decent landscaping project.

Paradise, nature; artifice - landscape



Figure 1 – Frame of “Canterbury Tales”, 1972 (available at: <https://filmscoop.org/2009/08/21/i-racconti-di-canterbury/>. retrieved in May 2023).

These are some frames of the film “The Canterbury Tales” by Pier Paolo Pasolini.

These are the initial frames in which Pasolini shows us Eve and Adam walking in paradise, represented by a topiary garden...

A Topiary Garden is the most artificial thing we can imagine, and the director's choice to represent Paradise is an important message related to what we do in landscape architecture.

In our culture, of Catholic roots, Paradise is the loss of nature's perfection and a change in our relationship with nature as punishment. Paradise is the loss of a Natural state rather than an intentionally sought-after artefact.

But in Pasolini's message, it is not a lost condition but a common goal.

The proposal of Paradise as a space of artificial (and collective) construction immediately produces the very optimistic idea that Paradise is created daily, a continuous improvement process of constant striving for harmony and perfection.

This is the opposite of the nostalgic and conservative idea that humankind was in a better place before. That is not true. Humanity was in a worse place before. We lived worse;



we lived less, understood worse what was happening around us and suffered more. We aged and died earlier, with more pain and less quality of life.

And it is the opposite of the idea of nature today as something perfect.

If we consider nature indisputable and perfect, we can make terrible mistakes in interpreting reality. Nature is not imperfect in itself but imperfect as a space to live.

Our whole history as a species is the story of our effort to correct, from a critical understanding, the aspects in which nature constitutes a threat, danger, and discomfort... this criticism is the essence of architecture and landscape construction.

We do not survive in undomesticated nature. This illusion was built by a culture that created nature imagery based on Disney, with cute, fluffy lions that we can caress.

That is not true. Lions eat us just like they eat any other animal. Nature is everything, perfection is everything, and everything is beauty, goodness and harmony, but also savagery, horror and indifferent evil.

Media reactions when the murderous indifference of nature surprises us are extraordinary - in the face of uncontrollable floods, the media expresses anger against states and their inability to contain and resolve those floods. I always recall the headlines of Le Monde on the destruction of the Fukushima nuclear power plant by a vast Tsunami - Humans have to learn to live with machines - as if what had happened was a technical failure and not a demonstration of the invincibility of nature's destructive ability... as if to a protective action did not always correspond a destructive one, evidencing our weakness, our ultimate weakness....

Humanity's habitat is landscape, and landscape is domesticated nature. All these ideas of returning to nature, to the wild, lead us to terrible paths because when we think that nature is perfect and indisputable, our critical capacity disappears... we accept everything and remove what distinguishes us as humans - our nonconformity given nature's imperfections and our ability to build a better world.

And our critical ability allows us to build our domesticated world.

In security, in prosperity, sharing this security with other communities - in short, Paradise!

The first thing, which is extremely important for working in landscape, is understanding the idea of nature and the idea of built artifice.

The highest point of sophistication in constructing artificial environments is equipping them with monitoring and maintenance autonomy.

It is not a matter of appearances... appearance issues are already resolved, and most consider them part of artificially built environments.

That is the goal; that is the mission of the landscape architect. And it is still a form of anthropocentrism - the idea of including other communities in our spaces, which follows



the current spatial exclusion that has led to the construction of arid and uninhabitable excavations, still needs to meet a desire to benefit these communities. It instead leads to awareness, through the sophistication of knowledge, that the situation for human societies is better in sharing because it produces spaces that are more autonomous, more sustainable and less susceptible to threats, knowing how to share the territory where we live so that this territory can have a healthy life.

This is the challenge, and this is the most extraordinary artifice.

When we can design an utterly artificial landscape that can be completed with the inclusion of all other communities as if it were a natural landscape, as sustainable as a natural landscape, and therefore autonomous, we have a paradise and a perfect artifice.

And the perfect artifice would be complicated to differentiate from nature. Philip K. Dick in “Do Androids Dream of electric sheep”, on which the film Blade Runner is based, focuses its narrative on the obsession that inhabitants of the future have towards waste in the natural world.

In a transformed, artificialized world, relations with the natural are mere observations of something rare and precious. This is how we live today, creating spaces dedicated to protecting the “Wild” because it is gradually disappearing.

In the book, the “natural animal” is an object of luxury, which very few millionaires manage to have. Other people have to be happy with mere replicas that are perfect and extremely difficult to distinguish from the natural... and there are replicas at different price points and varying quality standards. Humans are also replicated. And they are so similar to actual humans that there is only one way to distinguish them: through the test of empathy. Empathy is the last and most resistant human trait....

Topography and landscape



Figure 2 – The Miraculous Fishing, by Konrad Witz, 1444 (available at: <https://fineartamerica.com/featured/the-miraculous-draft-of-fishes-konrad-witz.html?product=acrylic-print> retrieved in May 2023).

As a pictorial representation, the first landscape is a painting by Konrad Witz, a biblical scene set in Geneva, ordered by a Pope from Genève and painted in the mid-15th century.

The question of identifying where the scene unfolded was essential, just like it is essential to recognise the person in a portrait. Still, the issue arose here for the first time in the history of painting.

The landscape had to be represented in such a way that anyone looking at the painting would be able to identify Geneva and its lake.

The issues of environmental coherence, at a time when people saw a limited number of images throughout their lives, were not essential; it was obvious that no one would be confused, as they would today, if a scene recognised as portraying an imaginary universe had particular elements in terms of climate, vegetation, architecture, etc., of a lake in the Alps.

The problem was elsewhere because, until Conrad Witz, all the representations of outer space tried to make recognisable the actions that characterised the relationship between human communities and the environment in which they lived, but in a completely abstract way, without considering the need for observers to recognise the place.

What is interesting about the method in landscape architecture is Conrad Witz's strategy to make the place recognisable... We, children of modernism, would not hesitate to make a site recognisable through a representative, iconic building, a symbol of a place. It is a common strategy to identify Paris using the Eiffel Tower and London using Big Ben, and we were surprised that Witz represented anonymous buildings and even ruins as if saying that buildings do not persist in time and represent a place in a scene that had taken place a thousand and five hundred years before.

He chooses, as the recognition element, the topography, the remote and untouched topography, the almost wild mountainous skyline of Geneva, still recognisable today, and several other closer topographies that illustrate the increasing degree of domestication, from anthropic manipulation to the scene at the centre of the painting. He teaches us the importance of topography in the landscape in two different ways.

Topography is a core element for identifying a place because it conditions the entire functioning of the site's metabolisms – from water movements, erosion and soil formation processes to plant colonisation processes and other ways the physical place interacts with its living actors. It is also the most permanent of all landscape elements and the hardest to change.

Representation of reality and landscape design

We now see images of point clouds produced at the studio with laser scan survey systems.

In the studio, we tend to work with representations from the laser scan, and we find it essential to have no one between us and the place we represent. When we work with a photographer, who is “between us and the site”, or a surveyor, we are already filtering the site's description.

The photographer interprets the site; the surveyor makes choices based on criteria that are not ours. We have to join those representations that often lead us through wrong paths.

We are distracted, focus on unimportant things, and do not see other essential elements we will not consider in the project. This new tool is very revealing and helpful for our work, since our starting point, for everything we do, is pre-existence. With the laser scan, we can practically enter the place, take it home and look at it as if we were seeing the actual site (the representation density is five points per cubic centimetre). It is an almost perfect representation. This creates other challenges because the tool changes; we immediately work on a three-dimensional model instead of the usual two-dimensional design, and the method must also change.

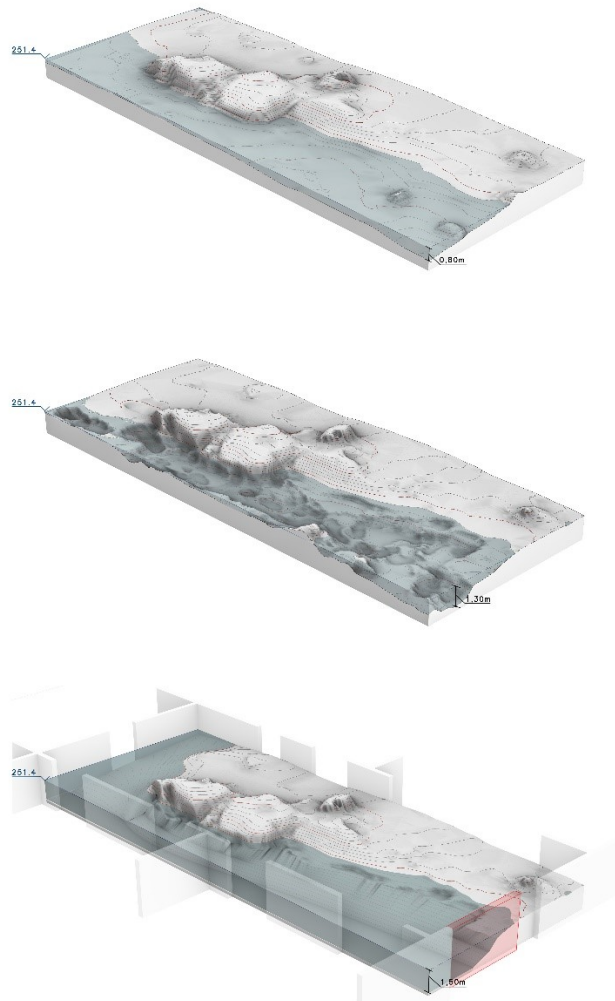


Figure 3 – Survey of territory using a laser scan (PROAP)

Continuity and change



Figure 4 – Horses in the Black Hall Panel, Grotto of Niaux, the Pyrenees, France (Source: IMBROISI, Margaret Imboisi and Simone Martins. *História das Artes*. Available at: http://www.historiadasartes.com/nomundo/arte-na-antiguidade/pre-historia/attachment/1-39cavalos_niaux/ retrieved in May 2023).

This is an image that I particularly like - a rock painting in a cave that was hidden for twenty thousand years. A German filmmaker, Werner Herzog, made an extraordinary documentary about this cave entitled “The Cave of lost dreams”. The documentary is the only way to visit the cave because it was then sealed to protect the rock paintings; no one can enter it. This cave in the French Alps was extremely active about thirty-five thousand years ago as a ritual place for a community that used it to perform various sacred rites and ceremonies. Twenty thousand years ago, the land moved, and the cave was completely covered and inaccessible. The space was thus isolated from the world, and what the community left as evidence of its life twenty thousand years ago remained intact.

Besides being surprised by the extraordinary beauty of the painting, we immediately view it as painted by an exceptional but forgotten author, an artist, and we marvel at the painter's artistic ability because we mistakenly imagine these ancestors from twenty thousand years ago almost as not human. But we are wrong..... When these paintings were analysed using carbon 14, it was discovered that they resulted from different interventions made thousands of years apart. It is a continuous painting made by a culture, not a person, and thus is the most beautiful landscape metaphor. These overlaps evidence the lack of fear in adding quality to what existed before, which was worshipped, and the care taken to add only when conditions were met. The thousands of years between each addition show that those conditions were not easily satisfied.

In addition to the immediate metaphor of the landscape and its construction, and our relationship with a landscape recognised as a Heritage, which we often place in a museum, these paintings tell us a story of continuity, of cohesive connection between the past and the present for thousands of years.

The WWTF (wastewater treatment plant) project

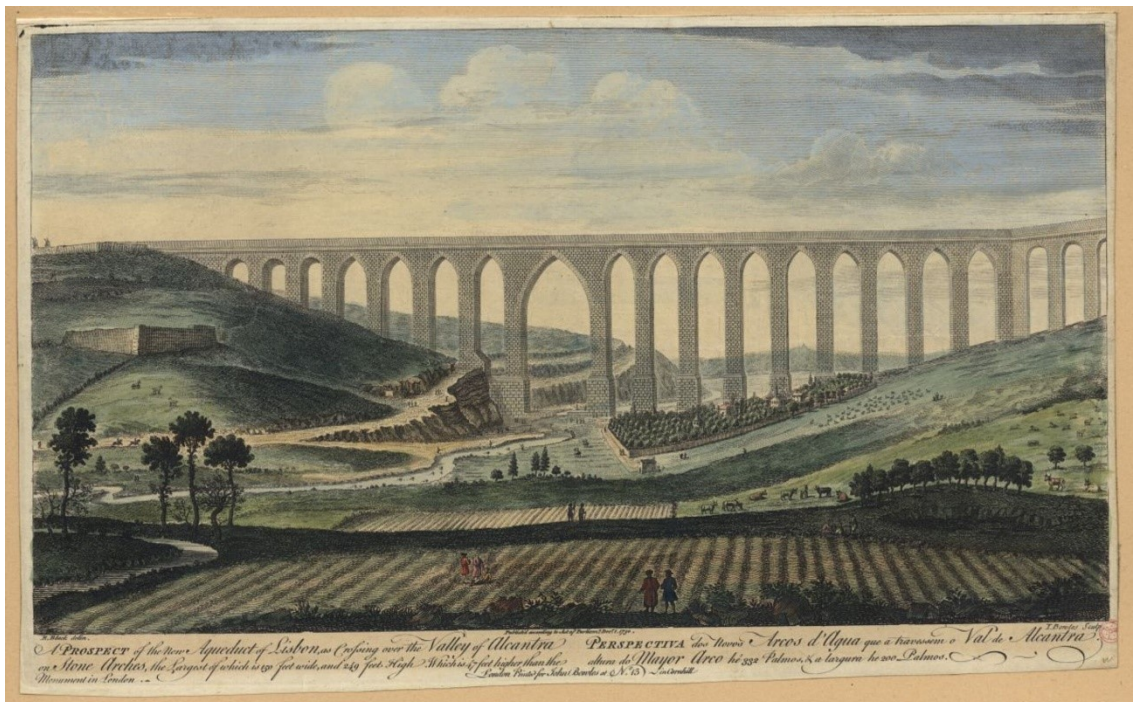


Figure 5 – Perspective of the new Arcos d’Água that cross the Alcantara Valley/ R. Black delin.; T. Bowles sculpture. London: John Bowles, ca 1750 (Source: Portuguese National Library. Available at: <http://id.bnportugal.gov.pt/bib/rmod/32014> Retrieved in May 2023).

Although, for the reasons already frequently addressed in this conversation, our work begins with the investigation of the site, and this investigation is made of different shades, which is never lacking historical cartographic and iconographic research, curiously, in the Alcantara Valley, the oldest record is this descriptive drawing of the Battle of Alcantara, which took place in this valley in 1580, and in which, in the end, the crisis of succession of King Sebastian, his uncle Antonio, the Prior of Crato, and nothing less, the King of Spain, were confronted. As a result of this battle, Philip II would soon become Philip I of Portugal.



Figure 6 – Battle of Alcantara (Source: Portuguese National Library. Available at: <https://purl.pt/1237/3/> Retrieved in May 2023).

But what was the valley of Alcantara? What was it like? In this image, we can see the width of the valley as farmland. It is a horticultural rural environment. At the same time, we can see elegant individuals who are not dressed as peasants. They would probably be gentlemen from the city who travelled to the valley for leisure, escaping the city's heat and dirt... The valley was for agriculture and relaxation, now corresponding to an Agricultural Park... This is also visible in other representations over time, as seen in the following images.

Although the agricultural and scenic character of the valley remained until the era of photography, there was also the construction of infrastructures, as is the case of the railway, which still does not compete with transverse continuities, as is evidenced in this image. The longitudinal line of the river is more relevant.

Later, in the 1930s, when the pipeline for the Alcantara stream was installed, the Duarte Pacheco viaduct and Ceuta Avenue were also built. Topography was changed into a “v” shape, marked by the stream, in a place where the bottom of the valley was entirely flat. The fact that this landscape was changed and a road replaced the water line was, in a way, a moment of pride for the city (it was portrayed in several postcards). It was a sign of progress, a reason to celebrate.



Figure 7 – Alcantara WWTP (Source: PROAP).

The project I am presenting is a submission to a design-construction competition, launched in 2009, for refurbishing a 1980s WWTP which would now include a purification process for tertiary treatment. This change would be essential for improving water quality in the Tagus River in Lisbon, which now allows us to have better environmental quality, as evidenced by the return of dolphins to the river. We were part of a team led by architects Manuel Mateus and Frederico Valsassina in the competition.

A WWTP had been built here in the 1980s, representing a second significant topographic change through cutting the existing area. The old WWTP had been constructed at the lowest possible quotas to fit the sewage network of a vast part of Lisbon. It was the second topographic change artificially introduced in the Alcantara Valley.

The new space would have to be thought of considering the technical specifications given by the team responsible for the technical purification processes, such as being a closed building, something that scared us a lot because we are talking about a vast space, equivalent to eight blocks in Campo de Ourique.

The size is scary if we think of a building. Still, it is smaller if we think of topography... a topographic intervention which allows for allocating the space a prosthetic character, thus redrawing the original profile of the valley. Initially, the WWTP was implemented through excavation due to the quota needing to be as low as possible, and the building would function as a prosthesis, reconstructing the valley's topography.

This means that architecture begins to design the building, not exclusively moved by spatial circumstances related to the equipment it will have to house, but considering its



contextual character, creating a series of different profiles to ensure continuity of the topography of each moment of the valley.

Then, the roof of the building and its most visible elevation are designed, a cap of concrete on which terraces are created using artificial soil. These are established by fixing a pendant and defining a height limit on the retaining walls, making each terrace different in size depending on the altimetric geometry of the cap itself. Where the cap is more tilted, the terraces are smaller, the opposite happening in flatter areas, creating a completely different layout and evidencing the topography of the roof through geometry.

Public access to the roof was considered as it would be a passageway through the valley. We proposed that the terraces become vegetable gardens, becoming a link and equipment that would justify having relatively easy access to the west side of the valley. However, the equipment used did not allow public access to the roof since it was susceptible to safety. What we did was to keep the design and use only edible species there.

¹ Lecture given on 26 October 2021 on “Inhabiting the Public Space” within Seminar I and III courses. Conference coordinated by Barbara Silva.

