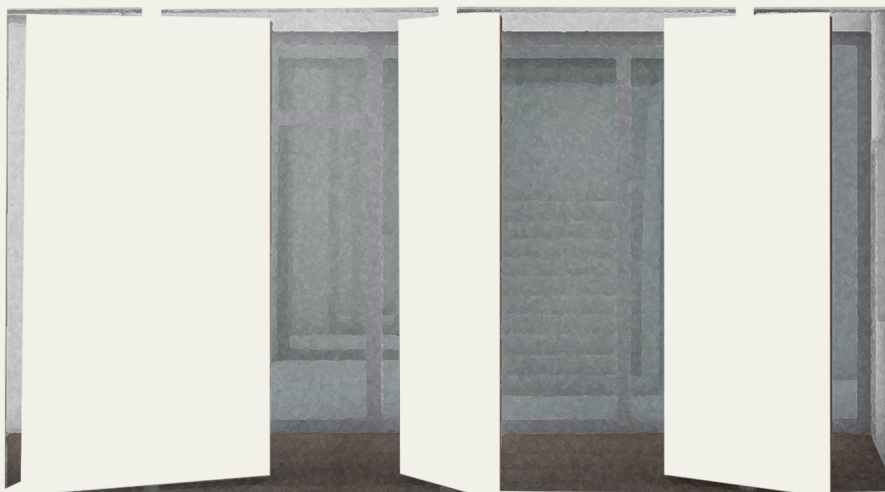


# D. DASKALOPOULOS ARTS BUILDING

## A NEW CULTURAL AND EDUCATIONAL BUILDING COMPLEX FOR ARTS

Athens College Campus | Psychiko, Greece









*Inhabiting Hybrid Spaces Between Architecture and Nature*  
**"A New Cultural and Educational Building Complex for Arts"**  
*Athens, Greece*

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The thesis project investigates the theme of **inhabiting hybrid spaces between architecture and nature** in the context of the architectural design project for a **New Cultural and Educational Building Complex for Arts** situated in Athens College's Psychiko Campus in Greece and the planning of its surrounding outdoor space. The adapted method for the development of the project was articulated into the following phases.

**The first phase** addresses the unique features of the project area by delving into the origins and morphological traits of the Psychiko district in Athens. This exploration also highlights the influential concepts and the architectural and urban space design projects that have contributed to shaping the site's character over time, with a particular emphasis on the contributions of seminal modernist and contemporary Greek architects such as Dimitris Pikionis, Alexandros Tombazis and ISV Architects. Moving on, **the second phase** uncovers both the tangible and intangible attributes of the campus: it begins with an exploration of the campus' historical and evolutive characteristics and then proceeds to conduct a multi-scalar analysis of the intricate relationships among the various buildings themselves, as well as their interactions with the surrounding landscape. Moreover, this phase involves a comparative study of campus projects in Athens with similar characteristics to situate the design proposal in a broader context. **The third**

**phase** identifies the key concepts and the design strategies, focusing on the definition of an interplay between the built structures and their natural environment, while harmonizing programmatic needs and synergies to give rise to hybrid environment which caters to diverse users. Finally, **the fourth phase** presents design references in support and exploration of the proposed design strategies. It addresses pertinent thematic frameworks, including the ground-building relationship, innovative school-sports hybrid buildings, the concept of mat-building, and the nuanced organization of solid and void spaces within the building interior. Each theme is accompanied by a design reference atlas aimed at enriching the incorporation of the design strategies.

**The findings of these phases** lay the foundation for the design proposal of a hybrid building which combines educational and cultural functions and aims to seamlessly connect architecture with the surrounding landscape setting and to integrate the built artifacts into the broader campus site. The proposed articulation of volumes sees the emergence and the subtraction of mass from a continuous platform, creating a network of internal and external gardens, as well as a network of transitional zones that bridge enclosed and open spaces. Through the introduction of green roofs, of different geometries and dimensions, the project aims to give back to the campus the part of soil occupied. The design of vertical and horizontal surfaces deploys architectural elements to mitigate the effects of the local climate at the building interior through brise-soleils, sun breakers and pergolas.

**In conclusion,** the design predominantly centers on ameliorating community engagement by adhering to human-scale principles despite its size and dimensions. It envisions a dynamic transformation of the built volumes throughout the diurnal and seasonal cycles, characterized by an intricate interplay of sunlight and shadow, further augmented by the integration of diverse landscape environments.



In an era characterized by rapid urbanization and eco-social challenges, the intricate interplay between the built environment and the natural landscape has become an increasingly important design topic. The thesis sets out to examine the role of the design project in promoting a symbiotic relationship between artifice and nature. It considers the design of a new Cultural and Educational Building Complex for Arts at the Psychiko campus of Athens College in Greece, proposing architectural strategies and actions for an efficient integration of the architectural organism in its surroundings. The design investigation addresses the notion of hybrid spaces both in terms of program and built and natural relationship. It begins with an in-depth exploration of the contextual aspects of the project's site.

The analysis of the context includes a comprehensive study of the historical development as well as of the present morphological and typological aspects of the Psychiko region in Athens where the project of the new arts complex design is planned, based on the garden district model. In the overall district, there is the presence of architecturally significant buildings, designed by architects such as Dimitris Pikionis and Alexandros Tombazis, shedding a light on their compositional and ordering principles. On a district scale, the surrounding urban area consists of buildings integrated in a dense green infra-

structure destined mainly to residential use. The buildings are principally placed offset from the street. This green infrastructure consists of not only residential and campus green areas, but also of many parks, recreation and playground sites. This variety of landscape features is seen also inside of the campus boundaries, as these express themselves as forest, a green roof occupied by program, as alleys, gardens, and courtyards. The focus is then turned to the architectural analysis of the Psychiko campus of the Athens College. The campus, based on the pavilion building typology, represents a historical architectural heritage of the city, including structures such as the Benakeio Building, where architectural forms enter into a vibrant dialog with the surrounding landscape that has both a historical significance and contemporary resonance. The buildings are from different eras ranging from 1929 to 2014; however, the relationship they establish with their surroundings remains as a common principle. Drawing upon this principle, a more comprehensive and detailed analysis of the building-context relationship has been done. The two main campus gates are characterized by different landscape features. The northeast gate is welcoming people from a comparatively more rigid landscape; whereas, the southwest one welcomes the visitors from a nearly forested area. That contrast sees the project site being situated between a duality that has also shaped the design decisions. Another important finding is that two main organizing axes have been identified: one derives from the directional-

ity of the sports field, which is parallel to the project site, and the second one from Benaki Hall (the main historical campus building) and other main buildings of the campus. After examining the morphological principle of the campus complex, attention was placed on the relationship between the single units and the open space. The buildings mainly adopt the courtyard typology; some of them have a system of multiple semi-open courtyards, others feature a central courtyard and others still include a system of internal courtyards.

The investigation of the relationship between built and natural environment is further enhanced by focusing on the campus' most significant buildings such as the Benaki Hall, the IB Building and the College Theatre. These present various relationships with their inherent open green spaces. For instance, the Benaki Hall is creating its own primary open space through a main and secondary courtyard; while, the IB Building is immersed in a green context; whereas the third is characterized by a shared hardscape with the main building. We can trace three main categories such as integrated, semi-integrated, and self-standing buildings in the green environment, creating individual and shared hardscape zones. Another important theme of the context analysis is the building-ground relationship. The campus buildings are situated in a way that the natural environment remains almost untouched and the topographical height differences are preserved. In doing so, buildings feature architectural elements like retaining



walls, stairs, ramps, platforms integrated in the terrain. Each building is characterized by a unique relationship with its topography. Some buildings create their own zones in levels lower than zero like the Athletic center, whereas some create their levels above zero within themselves that can be reached by monumental staircases directly, like the Benaki Hall. Additionally, in terms of designing such a hybrid complex among these different functional buildings, one should understand their non-physical characteristics such as which zones are the most/less concentrated by humans or vehicles, which areas are noisier/more isolated and which areas are more extrovert/introvert.

After examining the architectural, landscape and spatial features of the site and their relationship, the project addresses the programs of the hybrid complex. The main functional program included mainly educational and cultural functions. To understand the potential mutualities between functions to be introduced, the first step explored which functions can work together and how can these functions benefit from a direct contact with the natural topography. Then, the main organizing principles of the new architectural design were defined. A structural grid of six by six meters was introduced, benefiting from the organizing campus reference axes, the alignment with the borders of the sports field and the division of the mass into two zones. In terms of functional articulation, the extroverted zone is dedicated

to museum function, and the introverted zone is dedicated to educational programs such as studios, auditorium, cafe, library, offices, music and dance rooms. Then, the secondary paths are introduced as a semi-open corridor system that allows to create two entrances, orientated towards the two campus gates. The subtraction from one big mass allowed mimicking the pavilion typology existing as the campus' architectural language. On the first floor, the introvert and extrovert zones' differentiation is highlighted with an artificial ground for the educational purposes. This artificial ground is a crucial part of the project since it is created naturally from the existing topography in the site, which goes up to four meters from the zero level.

To go more in depth of the project, we can specify the functions and their relationship with their ground. In terms of service spaces, there is the storage of the museum, and the car parking on the underground level. On the ground floor, there are the museum, studios, library, auditorium, offices, cafe, music and dance rooms. On the first floor, studios, auditorium, library and museum shares an artificial ground with a continuous platform extended from the natural terrain. The access to this artificial ground is by the stairs which act as an outdoor auditorium and as a socializing area positioned towards the sports fields as well as with a ramp that is directly reaching to the forested area. On the artificial ground, some cuts that are permeable yet walkable, are designed to bring light in the semi-open corridors under the platform.

One of the main important design decision of the project is the green roofs' proposal whose aim is to restore the landscape/natural features of the occupied land. In doing so, these green roofs are differentiated in terms of forms, usage, and characteristics. For instance, the auditorium has a green roof that is accessible, while studios, museum and the library have green roofs that are not accessible providing spaces for different landscape settings. This natural ground on the upper level of the site, climbs up the auditorium that creates a socializing area for the students which they can spend their leisure time towards a forest view.

Another main aspect is the open-close space relationship. The singular buildings are introduced with private gardens, semi-open areas, courtyards, hanging gardens and green roofs specific to their unique programs. Their qualities differ among them in terms of their natural and built environment relationships. For instance, the music and dance rooms create their own hardscape zones on a lower level than zero with a semi-private garden having a semi-open stage area. The studios have a double height inner courtyard that is also a circulation zone for the entrances of each studio. The wooden pivot doors and the continuity of the outdoor surfaces reaching inside the courtyard erased the boundaries of the outside and the inside; thus addressing the main objective of the project. There is a private garden for the teaching staff connected to their offices that also has another entrance from the forested area reached by the stairs that comes from

the natural height of the ground: this office building is connected to the core that goes down to the parking area with a landscape arrangement in the same principle of the music and dance rooms' landscape arrangements, which also creates an open waiting area for the visitors. The cafe acts as a transitional social zone between the introvert and the extrovert areas that can also act as a threshold between the sports fields and the educational areas. The museum, on the other hand, has a semi-common garden enclosed by walls with cuts which provide views to the surrounding context and entice visitors coming from the forested entrance to enter and discover the building. After entering the garden, a canopy creates an in-between zone, delimited by the wooden pivot doors, which leads the users into another threshold, the inner courtyard that contains the entrances to the museum's separate rooms. The floor distribution and vertical core arrangement allowed for the creation of rooms which can be unified or separated according to the exhibition program needs. The first floor of the museum has a hanging garden that is considered as a sculptural garden.

Lastly, the theme of how the light enters the interior spaces was addressed, starting by defining the facade principles. A whole unit between the two columns is divided into three parts setting the main module: the use of a sub-module for the openings aims to create more tension in the facade. The different façades are characterized by the same architectural language are inserted according to the

building function and orientation. The main elements for the openings are: glass panels, wooden pivot doors, vertical sun breakers, and horizontal brise-soleils. The outer cladding is composed by lightweight concrete panels inserted in the same modular system. The pivot doors in this case are very important elements for the design decisions since they create a transition between the inside and the outside, erasing the clear boundaries by the continuity of the outdoor pavement indoors. They express the aim to inhabit those hybrid spaces between architecture and nature seamlessly. The canopy is also introduced on the entrance of the ground floor and above the first floor between the library and the studios to cover their entrances and highlight their dominance. To give secondary examples on the light entering the spaces, for instance, music and dance rooms can get light inside even though the building is dig in the ground, with a landscape arrangement that is created by excavation. The library has a central reading room getting light from the skylight above.

In conclusion, the design predominantly centers on ameliorating community engagement by adhering to human-scale principles despite its size and dimensions. It envisions a dynamic transformation of the built volumes throughout the diurnal and seasonal cycles, characterized by an intricate interplay of sunlight and shadow, further augmented by the integration of different landscape environments.



*research themes*

***(I) Context and Site: In focus***  
Understanding the distinctive morphological  
features of the project area

1.1 Psychiko district, Athens: Origins and morphological features

1.2 Development of a "garden district": From the neoclassic to the  
garden-city model

1.3 From Dimitris Pikionis to Alexandros Tombazis: Architectural land-  
marks in the area

***keywords***

-urban sprawl

-suburban area

-natural/built boundaries

-garden district

-Dimitris Pikionis

-Alexandros Tombazis



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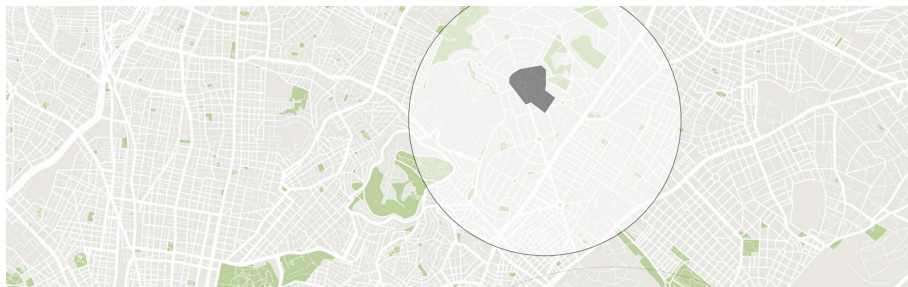
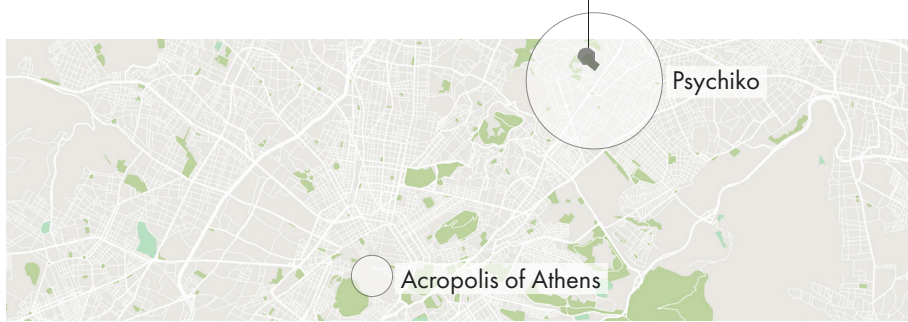
### ***Context and Site: In focus***

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Understanding the distinctive morphological features of the project area

The project site of Hellenic American Educational Foundation of Athens College is situated in the esteemed neighborhood of Psychiko, located in the north-central region of Athens, Greece. The campus itself is sprawled across a verdant 60-acre property that is surrounded by a lush greenery and a natural landscape, offering an environment that is both serene and conducive to learning. Being an upscale residential suburb of Athens, Psychiko is known for its diverse and unique architecture, boasting notable buildings designed by important architects, offering a peculiar blend of characteristics that center around the relationship between the built and natural environment. The area is primarily characterized by its garden district, which encompasses a range of architectural styles from traditional neoclassical to modernist designs. This eclectic mix of styles is a testament to the area's development over the last century, with each era leaving its unique mark on the built environment.

Athens College, Psychiko Campus

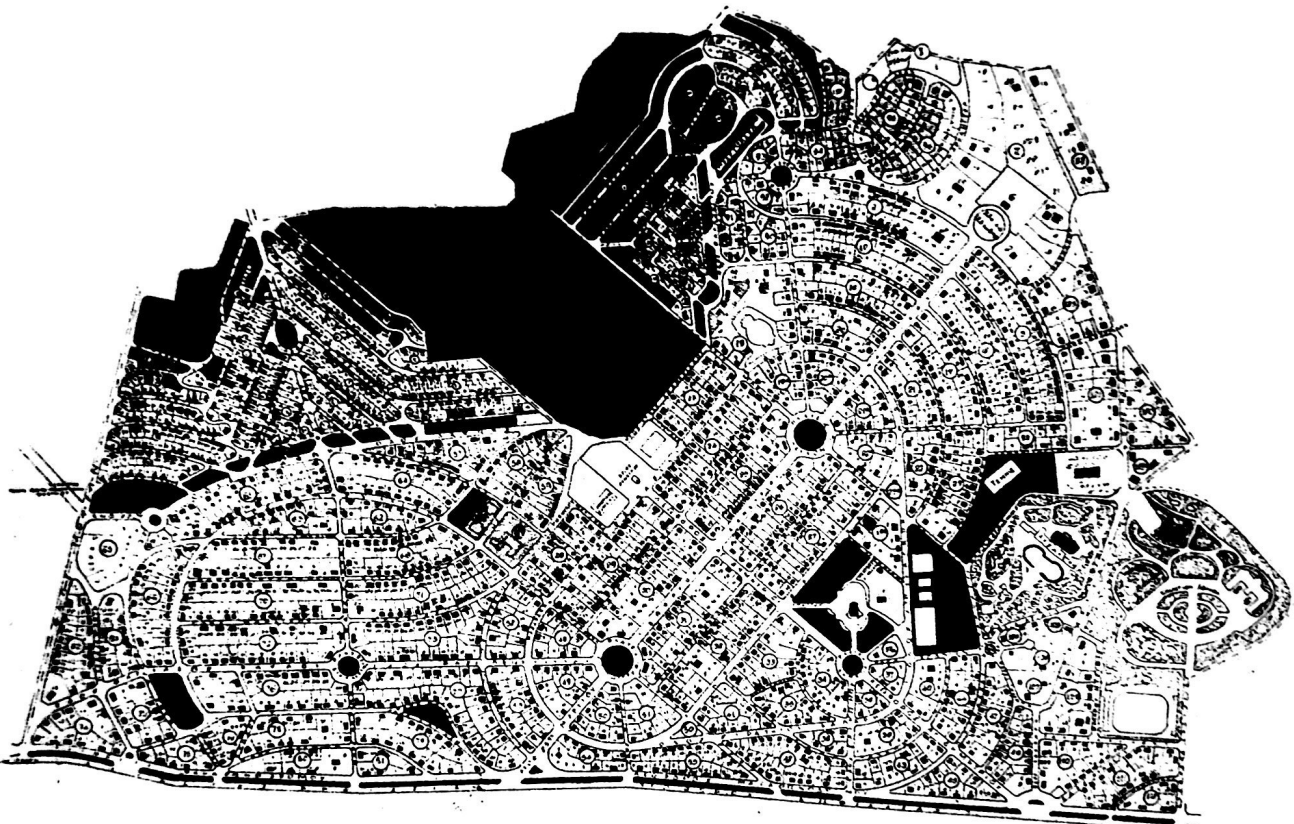


## 1.1 *Psychiko district, Athens*: Origins and morphological features

The suburb of Psychiko, has played a significant role in the city's urban sprawl and development over the past century. Originally established as an exclusive residential area in the early 20th century, the suburb has undergone significant architectural transformations over the years, resulting in a diverse and vibrant urban fabric. Psychiko was designed as a garden city, with spacious properties, tree-lined streets, and public parks that provided a respite from the crowded and polluted city center. The suburb was developed to cater to the city's elite and wealthy, with grand mansions and villas that reflected the neoclassical and eclectic architectural styles popular at the time. As Athens' population grew and the demand for housing and land increased, Psychiko became an attractive location for development. The suburb's proximity to the city center and its spacious properties made it an ideal site for high-end residential developments, commercial buildings, and public institutions. Architecturally, Psychiko's urban sprawl is characterized by a mix of traditional and modern styles. Many of the early homes in the area were designed in the neoclassical style, with grand entrances, ornate facades, and symmetrical proportions. In contrast, more recent developments have adopted a modernist approach, with clean lines, minimalist aesthetics, and a focus on functionality.

## 1.2 Development of a "garden district": From the neoclassic to the garden-city model

Throughout modern history, various urban plans have been implemented in the suburb of Psychiko in Athens, by known architects like Nikolouides. These plans have aimed to create a green and pleasant suburban community, modernize the infrastructure, increase the density of buildings, preserve the natural landscape, and improve the quality of life for residents. The architects who were involved in the planning of Psychiko, such as Nikolouides and Mayiassis, sought to move away from the strict rules of neoclassicism and design buildings that were more adaptable to modern living. However, they paid little attention to the broader context of the city and its development. In contrast, a few architects, including Anastasios Metaxas, attempted to create a synthesis between a "hellenic identity" and the new functional and technological demands of the time by adopting a somewhat reductive and outdated version of classicism, which was seen as a safe compromise. These architectural approaches highlight the tension between tradition and innovation in the development of urban spaces, and the challenges that architects face in reconciling these two seemingly opposing forces. In addition, recent efforts in Psychiko have included the renovation of public spaces, the creation of new bike and pedestrian paths, and the preservation of historic buildings and landmarks.



Plan of Psychiko, Suburb of Athens, 1923 (Prestel, 1999)

The architecture of the area changed along with the political and social landscape of Greece during the 20th century. In the interwar period, the area became a popular location for wealthy suburban housing. This housing was designed to provide a calm and green environment for the middle class residents of Athens who wanted to escape the crowded and polluted city center. The development of the area was influenced by the rising middle class who were advocates of modernism, which promoted simplicity, functionality, and the use of new materials. Along with this, there were also conservative architects such as Periklis Sakellarios, who designed apartment buildings and other urban structures using simplified classical styles, as well as modernized traditional styles for the standalone private homes they built in the suburban area.



Periklis Sakellerios, Villa in Psychikon, Athens, 1958 (Prestel, 1999)

The Garden City movement emerged in the late 19th century as a response to the rapid urbanization and industrialization taking place across Europe. Its core philosophy was to create self-contained, harmonious communities with a balance of urban and natural elements. These cities aimed to provide residents with a high quality of life, emphasizing access to green spaces, ample housing, and efficient transportation networks. In Greece, the Greek Society for Grand Cities recognized the potential benefits of the Garden City model and set out to implement it in various areas. Psychiko, a suburb located northeast of Athens, became the primary site for the Society's experimental project. The area was transformed into a planned community characterized by wide, tree-lined streets, spacious parks, and carefully designed residential areas. The integration of natural landscapes, such as gardens and open spaces, was a key element of the Garden City concept. Encouraged by the success of Psychiko, there were subsequent attempts to replicate the Garden City model in other parts of Athens. These efforts aimed to alleviate overcrowding and improve living conditions in the city. However, due to various challenges, such as limited available land and the complex nature of urban development, the full-scale implementation of the Garden City concept in other areas proved to be more challenging. Nonetheless, the Garden City model, as exemplified by Psychiko, left a lasting impact on urban planning in the country. It emphasized the importance of incorporating green spaces and thoughtful design in urban envi-



ronments, inspiring subsequent generations of architects and city planners. Psychiko-Filothei was originally a rural area with scattered settlements, orchards, and farmland. After the Greek War of Independence, the land was divided among different owners, and the first houses were built in the early 20th century. The neighborhood started to grow rapidly in the 1920s and 1930s, as many wealthy Athenians sought to build homes outside the overcrowded and polluted city center. The private homes in the area were primarily built as garden districts, where the houses were set-back from the road, creating green areas and in-between spaces for the users. The architects and urban planners responsible for the development of the Psychiko-Filothei area were also aware of the importance of integrating natural elements into the built environment such as Aris Konstantinidis believed that architecture and urban planning should serve the needs of the community and be integrated with nature. The area continued to grow and evolve over the decades, with the construction of new houses and the expansion of the road network. However, the garden district character of the neighborhood has been preserved, and it remains a popular destination for those who seek a peaceful and verdant retreat from the city.



residential

cemetery

recreational

educational

1 courtyard



d typology

② garden typology (Psychiko)



Hellenic American Educational  
Foundation | Athens College  
Psychiko Campus

The representational map of the Psychiko area where Athens College is located offers an intriguing glimpse into the distribution of greenery in the region. The map reveals that the green spaces are predominantly associated with residential units, which have been designed to incorporate peripheral green areas in the form of private gardens for their residents. This can be observed in zone 2 of the map, which is indicative of the garden district typology. Furthermore, the western part of the partial city plan (zone 1) is characterized by courtyard housing typology, wherein the green areas are generated within the courtyards and lined along the facades that face the streets. This pattern of development contrasts with the natural-built environment relationship that is typical of Psychiko. In addition to the presence of residential green areas, the area features a plethora of other green programs. The spacious recreational green areas, parks, and gardens offer a much-needed respite for the metropolitan city of Athens, while providing open public spaces for the inhabitants. The cemetery serves as a significant contributor to the city's greenscape and generates a larger breathable zone. Amidst this verdant backdrop, the green spaces of Athens College's Psychiko campus assume a distinct character and can be designated as educational green areas. These green spaces serve an educational function and are relatively more private than the recreational public greens. This typology is replicated in other parts of the area due to the presence of other educational buildings. It is worth noting that the distribution of greenery in Psychi-

ko reflects a well-thought-out approach to urban planning that takes into account the residents' needs for green spaces. The typology of green areas varies depending on the context, such as the housing typology or the presence of educational institutions. Nonetheless, the overall distribution of greenery in Psychiko reflects an approach that takes into account the residents' needs for green spaces, and the different typologies of green areas contribute to the richness and livability of the area.

### **1.3 From Dimitris Pikionis to Alexandros Tombazis: Architectural landmarks in the area**

In the early 20th century, the area of Psychiko saw the development of many architecturally significant villas for the Greek elite. These villas were designed with meticulous attention to detail, featuring grand entrances, expansive gardens, and private green spaces. Architects of this period favored classical designs and incorporated traditional elements into their designs. Later, in the 1930s, the modernist movement had a significant impact on the design of many buildings in the area. The modernist style emphasized functionality, clean lines, and simplicity. Many architects in Psychiko adopted the modernist approach, resulting in the construction of several modernist-style buildings in the area. After World War II, the area experienced a significant increase in population and development, which led to the construction of large apartment buildings and public spaces. Architects of this period prioritized the practical needs of the residents, resulting in the incorporation of modernist elements in their designs. The buildings of this period feature simple, functional designs that prioritize the residents' practical needs. In recent years, the area has seen the development of several contemporary architectural works. These works have common features with the old ones that incorporate their existing natural environment to their new built environments successfully.

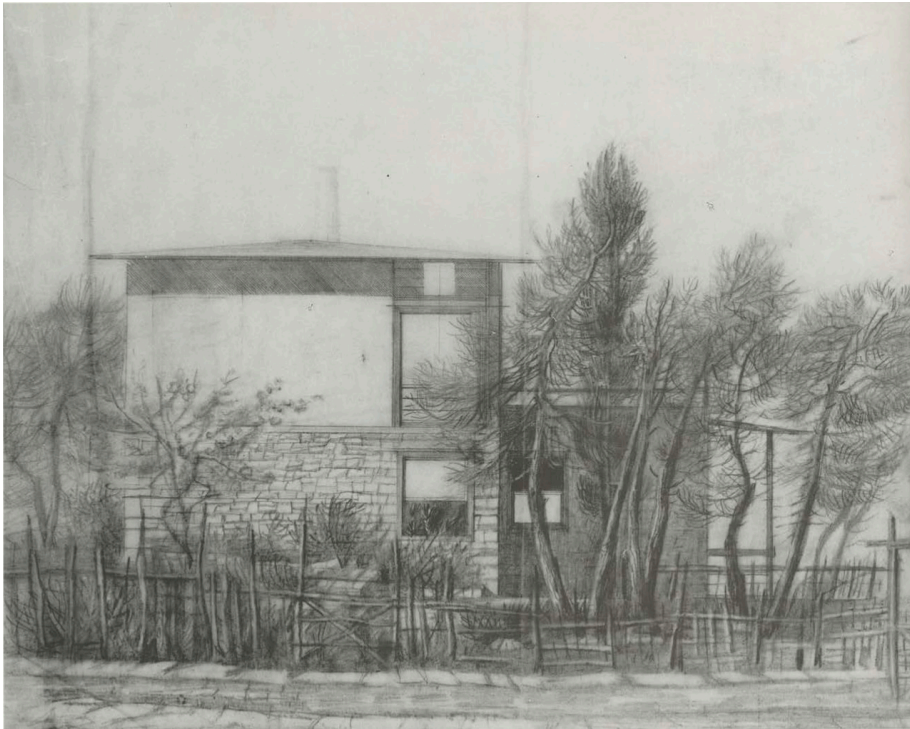
One of the most prominent examples of integrating the built environment to its natural one, can be seen in the public park located in the heart of Psychiko-Filothei, which was completed in 1959 and designed by the renowned Greek architect Dimitris Pikionis. The park's design aimed to create a harmonious relationship between the built environment and the surrounding natural landscape. To achieve this, Pikionis carefully designed winding pathways that follow the contours of the terrain, blurring the boundaries between the park and its surroundings. The pathways were made using locally-sourced, irregular-shaped stones to create a sense of organic and natural movement. In addition to the winding pathways, the park also features several terraces that allow visitors to experience the levels of the terrain, while also offering views of the surrounding cityscape. These terraces were constructed using a variety of materials, including local stone and brick, and were designed to complement the surrounding natural landscape. This kids' playground in the park is surrounded by boundaries but still connected to its surroundings, and it combines both old and new elements to create a "collage" effect. The location of the playground is a mix of flat and sloping areas, with some parts covered in pavement and others in grass, and it used to be a ravine. "His work is multivalent; he endeavours to bring about a synthesis of these contrasts." -Emile Chlimintzas. (Architectural Association, 1989, p. 60)



Children's playground, Dimitris Pikionis, Philothei, Athens, 1958 (AA Press, 1989)



How he integrated the design in its cultural and natural context was also obvious in his work of House for Potamianos in the same area of the garden city of Philothei where he worked in collaboration with Alexander and Ino Papageorgiou in 1954. As he implemented in his postwar works, Pikionis aimed to achieve a "harmonious synthesis" of the ecumenical spirit by drawing on the expressive means of the Greek tradition, which he believed were more closely related to those of the East rather than the West. For the Potamianos residence, Pikionis combined memories from the anonymous tradition with modern media and techniques, as well as teachings from the Japanese garden tradition. The style and type of the building show a clear influence from the northern Greek architectural tradition, as it incorporates both traditional and modern principles. Modernist principles, such as functionality, clarity, and the use of honest materials, are combined with traditional forms, types, and materials. The garden landscaping also reflects an intention to express the Greek spirit and continue the architectural tradition. The house is located on a sloping site, which Pikionis used to create a series of terraced gardens that blur the boundary between the house and the surrounding landscape. The gardens are designed in a way that echoes the natural topography of the site, and they incorporate a variety of plants, trees, and rocks that enhance the overall harmony between the building and its environment.



House for Potamianos, Dimitris Pikionis, Philothei, Athens, 1954 (AA Press, 1989)

In addition to the individual contributions of architects like Pikionis, who sought to blend traditional forms and materials with modern design techniques, there have also been a number of significant collaborative projects that have helped to shape the character of the area. One such notable project is the Neo Psychiko apartment complex designed by Alexandros Tombazis, which draws inspiration from the Metabolist architecture movement that emerged in Japan in the 1960s. This building features a striking, multi-level design that incorporates elements of traditional Greek architecture, such as stone walls and terracotta roof tiles, with the sleek lines and modular construction techniques of Metabolist design. The building also deviates from the typical height standards of Greek architecture, standing out as a bold and visionary example of the kind of experimentation that has come to define the architectural landscape of Psychiko. In addition to these apartment buildings, a number of other important architects, such as Andreas Simeon, Alexandros Collaros, and Savas Condaratos, have also contributed to the housing stock of the area with their own distinctive designs. Whether through single-family homes, cooperative housing developments, or gated communities, these architects have all sought to integrate green space and natural elements into their designs, creating an overall sense of harmony between the built environment and the surrounding landscape.



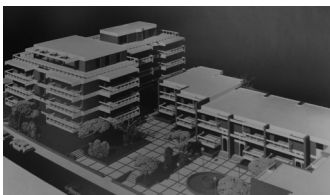
Single family house, Seva Karakosta, Palaio Psychiko, Athens, 1966-67 (Prestel, 1999)

The concept aimed to unify the main interior spaces and extend them into the outdoor areas. To blend with the natural surroundings as seamlessly as possible, the building mass was minimized.

The architectural form of the building takes advantage of the various sizes of the apartments, utilizing deep recesses and pronounced protrusions on the exterior walls to create a visually dynamic and sculptural effect.

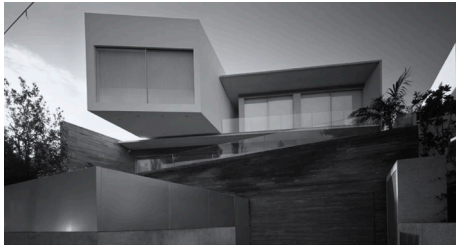


Difros apartment complex, Alexandros Tombazis, Neo Psychiko, Athens, 1971-75 (Prestel, 1999)



Apartment complex, Simeon-Collaros-Condaratos, Palaio Psychiko, Athens, 1972-76 (Prestel, 1999)

The design incorporates varied masses and spaces, yet maintains a cohesive and visually appealing appearance. The private plaza and homes contribute to a human scale that enhances the project's overall appeal.



Psychiko House, Divercity Architects, Psychiko, Athens, 2012 (Retrieved from <https://www.archdaily.com/282054/psychiko-house-divercity-architects>)



Filothei House, Divercity Architects, Psychiko, Athens, 2012 (Retrieved from <https://architiz-er.com/projects/filothei-house-1/>)

Besides modern architecture arised in Psychiko-Filothei by prominent Greek architects, there are also significant contemporary residential examples in the area. As mentioned, being a middle income neighborhood, the suburban area has high amount of villas located inside their green areas. Two examples from Divercity architects can be discussed in this manner. Both the Psychiko House and Filothei House demonstrate their commitment to creating architectural works that respond to the unique context of their respective locations. The integration of outdoor gardens and terraces further enhances the connection to nature, providing residents with a serene and tranquil atmosphere. The seamless integration of indoor and outdoor areas creates a seamless flow and allows residents to enjoy the picturesque surroundings.

## **(II) The Athens College Psychiko Campus: In Context**

Discovering the tangible and intangible characteristics of the campus

2.1 The historical importance of the campus

2.2 The character of the site boundaries

2.3 Pavilion-building typology

2.4 Relationships among buildings and between the architecture and landscape

2.5 School campuses in Athens: A comparative analysis

### ***keywords***

-history    -character    -comparison    -natural/built boundaries

-relationship    -nature/built    -campuses    -Alexandros Tombazis

## — *The Athens College Psychiko Campus: In Context* —

Discovering the tangible and intangible  
characteristics of the campus

Athens College in Psychiko has an abundance of greenery and features a mix of neoclassical and traditional buildings that represent a century of history. The Psychiko campus of Athens College is comprised of a total of twenty-three structures, encompassing educational, cultural, and recreational facilities. Notably, this collection of buildings includes a range of significant architectural works, which date from 1929 to as recently as 2014. Thus the given site is to design the twenty-fourth building, which is to be named the "D. Daskalopoulos Arts Building" and will represent the most recent addition to the campus compatible with its surrounding context and architectural principles.



Retrieved from: <https://www.athenscollege.edu.gr/en/about-us/our-facilities>

## *2.1 The historical importance of the campus*

Athens College's Psychiko campus has a rich and storied history that reflects the evolution of modern education in Greece. The college belonging to the Hellenic-American Educational Foundation was founded in 1925 by a group of enlightened Greeks, led by Emmanuel Benakis and Stephanos Delta, with the support of prominent American philhellenes, including Edward Capps, Bert Hodge Hill, and Charles Howland. The goal of the college was to provide a high-quality education to Greek students that combined the best of Greek and American educational practices. The original campus was located in downtown Athens, but by the 1950s, it had outgrown its space. In 1953, the college acquired a large plot of land in the suburb of Psychiko, which was then a sparsely populated area of Athens. Over the years, the campus has expanded and evolved, with the addition of new buildings and facilities that reflect the changing needs of modern education. Despite its growth and modernization, Athens College's Psychiko campus has remained true to its founding principles of providing a high-quality education that combines the best of Greek and American educational practices. The college has become one of the most prestigious private schools in Greece, known for its rigorous academic programs, commitment to social responsibility, and its contribution to the cultural and intellectual life of Athens.





Benaki Hall. Retrieved from: <https://www.athenscollege.edu.gr/en/about-us/our-facilities>

Benaki Hall stands as a prominent structure on the Athens College campus. Originally, the building consisted of the main structure, the east wing, and the foundation of the west wing, with architects and civil engineers K. Kyriakidis, K. Sgoutas, and N. Soulis overseeing the project. On May 25, 1929, the inauguration of Benaki Hall occurred, with notable figures attendance. Through the contributions of college alumni, parents, and supporters, funds were raised to complete the west wing in 1952. In 2010, the building underwent extensive renovations.



SAKA Clubhouse (1936)



Scholarship Office (1954)



Library (1966)



IB Building (1966)



Church of Archangels (1971)



College Theatre (1982)

Retrieved from: <https://www.athenscollege.edu.gr/en/about-us/our-facilities>

After Benaki Building which is known as the main building in the campus; SAKA Clubhouse has been built, and Scholarship office, Library, IB Building, the church of Archangels and College theatre constructions followed at the later years. The construction of the campus buildings have progressed over the years, not all at once. These six buildings mentioned above are the most prominent structures in the campus with their programmatic importance.

There are other structures in the campus, relatively smaller than the other mentioned ones, such as President's residence, Darbshire, Tso-lainos, Glafka, Vasileia, Marjorie, Lila and Davis house along with Capps Hall and Alexandra Martinou Building. Those buildings are mainly elementary schools along with some residential buildings serving for the teaching staff/president. The development of those structures date back to 1929 and reaches to 2014 which is known as the last structure with the kindergarden.



President's Residence (1929)



Darbshire House (1932)



Tsolainos House (1955)



Glafka House (1957)



Capps Hall (1958)



Vasileia House (1959)



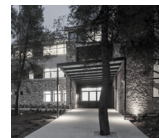
Marjorie House (1960)



Lila House (1961)



Davis House (1969)



A. Martinou Building (2014)

Retrieved from: <https://www.athenscollege.edu.gr/en/about-us/our-facilities>



Stephanos Delta Stadium (1954)



Angleicousseio Gymnasium (1966)



Tennis Courts Complex (1988)



Samaras Athletic Field (1999)

Retrieved from: <https://www.athenscollege.edu.gr/en/about-us/our-facilities>

The campus have several sports complexes that were started to be built since 1954 til 1999. They all exist in the green areas, creating a harmonious relationship with the nature; while serving to the programs existing near them such as educational buildings.

The last structure constructed on the campus is the kindergarden building by Alexandros C. Samaras & Associates S.A. in 2014. The building is creating a different relationship with the nature by having a green roof that brings a more contemporary touch to the campus' architectural language.



John M. Carras Kindergarden (2014)

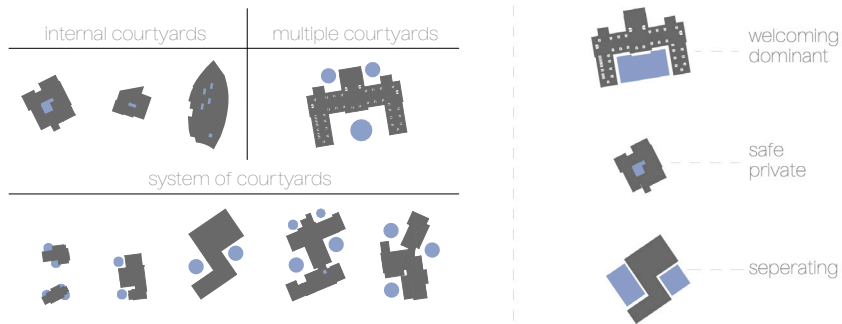
Retrieved from: <https://www.athenscollege.edu.gr/en/about-us/our-facilities>

## *2.2 The character of the site boundaries*

The campus is bounded by natural and built features that define its boundaries and shape its character in its urban fabric. On the east and west part of the campus, the boundaries between the campus and the surrounding residential areas are served by infrastructure of transportation that are the railway line and the highway line. Whereas on the north and south part of the campus, forest and a recreational park serves as natural boundaries that separates the campus from the bustling urban environment of Athens, while also providing a peaceful and green oasis for students and staff. In addition to the natural and built boundaries surrounding the Athens College Psychiko campus, the campus itself is enclosed by a boundary wall that defines its own distinct boundaries. The wall provides a sense of security and privacy for the campus, while also creating a sense of unity, and cohesion within the campus community. The wall is also an important feature of the campus's architecture. Along with the built boundaries of the campus itself, the natural environment of having the specific green elements of an educational area is providing a secondary zone to define its periphery better. Together, these natural and built boundaries define the character of Athens College's Psychiko campus, creating a unique and distinctive environment that is both secluded and connected to the wider world.

### 2.3 Pavilion-building typology

The pavilion-type buildings, arranged in a dispersed manner, are situated on their respective topographies, thereby affording distinct spatial characteristics, based on their individual forms. A majority of these structures are designed to derive maximum advantage from their courtyards, with certain instances involving internal courtyards for creating a sense of intimacy and privacy, while others showcase larger frontal courtyards, in order to invite greater engagement. The construction of these buildings typically involves the integration of multiple building components, culminating in a complex system of courtyards.



Courtyard analysis on the buildings in Athens College Psychiko Campus, Greece

## ***2.4 Relationships among buildings and between the architecture and landscape***

The process of nature-building dialogue encompasses analyzing the natural environment surrounding a building site and seamlessly integrating this context into the design of the building. A comprehensive understanding of the site is essential to create a design that complements and blends in with the natural environment and architectural language of the surroundings. The interplay between these two elements leads to intricate conversations that can be aptly described as a dialogue between the built and natural environments. This harmonious dialogue between the built and natural environments not only enhances the aesthetics of the architecture but also fosters sustainable practices. By respecting and responding to the unique characteristics of the site, one can create structures that minimize their ecological footprint, promoting a more resilient and ecologically responsible approach to construction. This dialogue ultimately results in buildings that not only coexist with nature but actively contribute to the preservation and enrichment of their surroundings. Moreover, this intricate dialogue extends beyond aesthetics and sustainability; it influences the human experience within these spaces. Buildings designed in harmony with their natural context often provide occupants with a profound sense of connection to the outdoors, enhancing well-being and fostering a deeper appreciation for the environment.



The school complex is an example of the integration of built elements within a natural setting, as it has been designed to coexist in harmony with the surrounding forestry area and its residential context. The periphery wall that defines the area as a built element has been instrumental in achieving this harmonious relationship between the built and natural environment, creating a transition between the two. The individual buildings that make up the campus have been thoughtfully situated throughout the green area, with each structure possessing its own unique characteristics; thus creating a pavilion typology in the campus. Despite the individuality of each building, a common architectural language has been employed to ensure that they communicate with one another on many levels. This sense of unity is further reinforced by the use of repetitive angles and a rhythmic placement that follows the borders of the site. The hierarchy among the buildings is also evident, with some structures being positioned in more prominent locations than others. The natural environment in which the campus is situated provides a contrast to the built environment, as it is very organic and ever-changing. This dichotomy between the built and natural environment adds a layer of complexity to the overall design, and allows the architecture to exist in a state of constant dialogue with its surroundings.

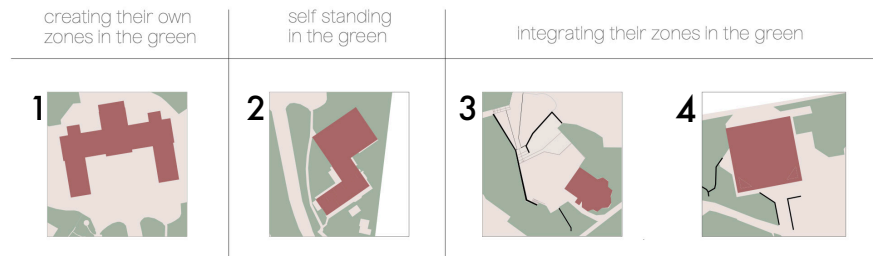


Site plan of Athens College Psychiko Campus

The buildings on the campus that were designed individually throughout approximately eighty years, consist of different characteristics and building typologies forming various relationships with their ground yet creating a whole on various levels. Each building is situated on their ground without changing the natural height of their topographies, respectful to its natural environment; therefore, to reach the buildings, various vertical circulation elements like stairs, or natural ramp integrations into the soil are implemented. While doing this, retaining walls created a secondary language as a transitional architectural element between the built and the natural environment of the campus. These retaining walls, at some places, are functional to create individual entrances to the buildings or the recreational/cultural structures, or private garden walls for the residential or more private buildings on the campus. Furthermore, buildings are designed in a way to integrate different courtyard systems in their architecture which can be categorized as; buildings with one or more than one courtyards, buildings having internal courtyards, or buildings having a system of courtyards by the connection of multiple building combinations. The buildings that do not contain courtyards are also communicating with their replacements in the campus by using the repetitive reference axis in their layout.

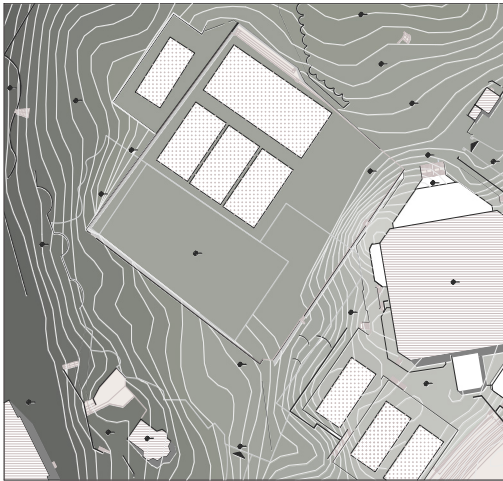


Typological analysis on the buildings in Athens College Psychiko Campus, Greece

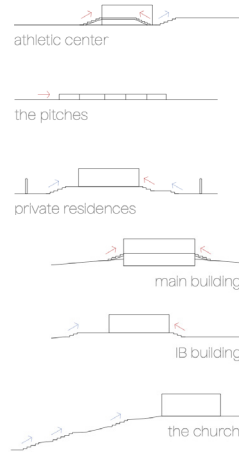


These various type of building components are forming different environments within themselves; moreover, they are in different collaborations also with their terrain. The present discussion cites examples that illustrate the varied relationships between built and natural environments, particularly in terms of their ground contact and the spatial configurations they engender. For instance, the primary building(1), featuring a prominent frontal courtyard that overlooks the entrance, exudes a welcoming yet secure atmosphere and asserts its dominance by creating its own hardscape zone. In contrast, the IB Building(2) modestly situates itself within the green area, foregoing the creation of its hardscape zone. The church(3) and the stage(4), on the other hand, both incorporate hardscape zones into their respective green areas. However, the church adopts a more holistic approach, progressively incorporating the landscape into its design, whereas the stage's spatial configuration is more constrained by retaining walls and reliant on the hardscape zone of the primary building.

In a close up scale, at the figure on the map, as one notices, the natural topography of the campus has various height changes throughout the site. Even though the built environment is very scattered around the site, they all communicate by forming an architectural language about how they touch their ground; by respecting its irregularities. To exemplify; if the topography is lowering in that area, the landscape itself proposes a staircase to enter the building (1), if the landscape is going up, the building provides staircases and heighten it's level (2), or the landscape itself can create a design throughout the site to reach its building. (3)



Topographical change analysis in Athens Collage Psychiko Campus // close-up scale



building-topography relationships in the campus

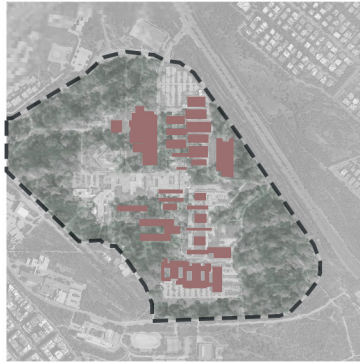
## *2.5 Comparative Analysis of School campuses in Athens*

In the suburban locale of Psychiko, a huge emphasis is being placed on the construction of educational institutions, including schools and academies. This is notable also in comparison to the broader urban expanse of Athens, potentially even surpassing it in significance. Throughout the interwar and postwar era of the 20th century, there was a consistent and incremental momentum in the construction of schools, academies, and campuses, reflecting a vested interest in demonstrating intellectual prowess. The Athens College Psychiko Campus stands as a testament to this tradition. In order to apprehend its typology and its dynamic relationship with its natural environment, a comparative analysis ought to be conducted, with due attention to the archetypal structures in Athens, as well as those in the surrounding environs of Psychiko, such as the Polytechnic of Athens, Arsaikon Girls School, and National University of Athens, for instance. These structures, which have each achieved historical significance from disparate epochs, were designed by eminent architects such as Kaftantzoglou and the Hansen brothers, among others. Their distinct contextual relationships to their environs invite further scrutiny, as one may gain insight into the contextual relationship of the Athens College Psychiko Campus by means of comparative analysis with other campus areas or school complexes.

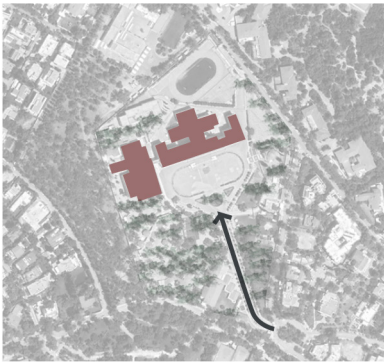
Athens College, Psychiko Campus



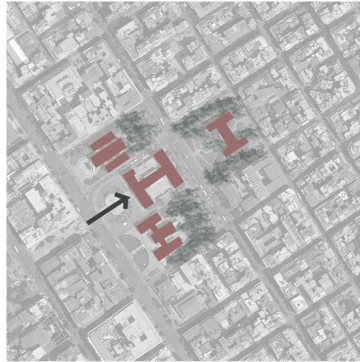
Polytechnic of Athens



Arsakeion girls school, Psychiko



National and Kapodistrian University of Athens





When analyzing various campus projects and school complexes in Athens from different historical periods, it becomes apparent that privacy is more readily provided in campus buildings than in school complexes. This is achieved through the incorporation of urban elements that create a sense of closure within the building's environment. However, this sense of closure may also result in structural complexities, such as the pavilion-style buildings found in Athens College's Psychiko Campus, which are scattered throughout the external boundaries while maintaining a central green area. In contrast, Polytechnic of Athens creates more robust volumetric relationships among different programmatic structures while pushing the green areas to its boundaries. In historical school complex buildings, privacy is less of a concern, and these buildings are more accessible to the public, often featuring monumental entrances that invite people into the main buildings. The greenery in these complexes is utilized more as a landscape element rather than as a forestry element. In summary, these findings suggest that the design and layout of campus projects and school complexes in Athens have been influenced by different architectural approaches and goals, resulting in varied degrees of privacy and public accessibility. In addition to that, it is noticeable that the suburban area of Psychiko provides more space for the school buildings to create their own zones comparing the ones built closer to the concentric city center.

### ***(III) Design Actions***

Researching on the important concepts that are prioritized as the design strategies

3.1 Morphological integration: Analyzing the natural-built relationship

3.2 Programmatic synthesis: Identifying affinities for effective hybrid environments

3.3 Connecting architecture and landscape

3.4 Drawing on the pre-existing

#### ***keywords***

-morphology      -hybrid programs      -synthesis      -synergy

-connection      -architecture      -landscape      -pre-existing

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## *Design Actions*

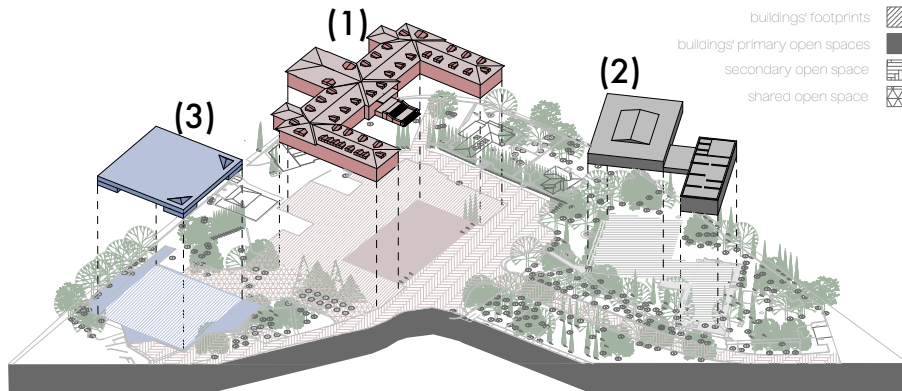
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Researching on the important concepts that are prioritized as the design strategies

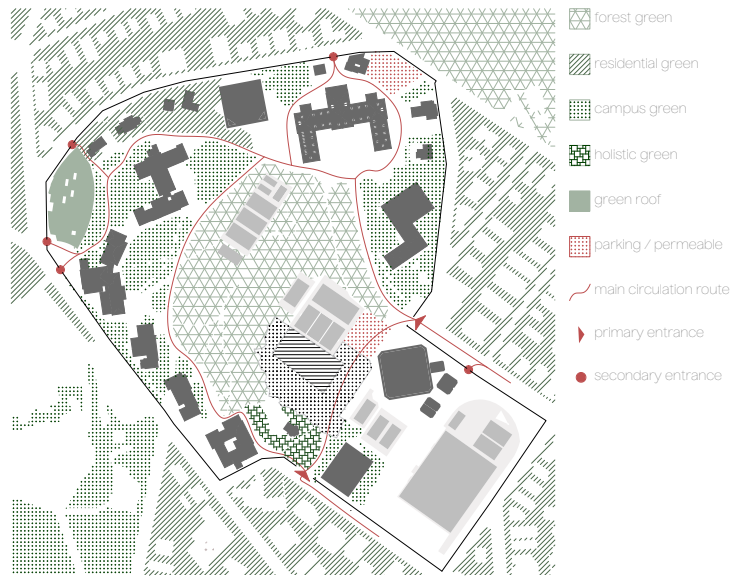
Researching the key concepts prioritized as design strategies is a foundational undertaking in the realm of architecture and design. This process involves a thorough exploration and analysis of principles, theories, and methodologies that guide and inform the creation of innovative and effective design solutions. It must be delved into various facets to determine which concepts should take precedence in a given project. In this case, considering the hybrid education complex that connects architecture with nature, the main themes would be about integration of the morphologies, programmatic synthesis, connection of the architecture and landscape and lastly drawing on the pre-existing. By rigorously investigating these critical design strategies, it can be made informed decisions that lead to the development of buildings and spaces that not only meet the needs of their users but also contribute positively to the built environment and society as a whole. This research-driven approach ensures that design efforts are rooted in a solid understanding of the core principles that underpin successful architectural and design endeavors.

### ***3.1 Morphological integration: Analyzing the natural-built relationship***

Morphological integration, a crucial concept in the field of architecture and urban planning, involves the comprehensive analysis of the intricate relationship between the natural environment and the built environment. This multifaceted examination explores the ways in which architectural structures and urban developments harmonize with, respond to, and coalesce with the surrounding natural context. It is meticulously assessed on the factors such as topography, climate, vegetation, and geological features to discern the inherent qualities of a site. By doing so, it can be crafted designs that seamlessly integrate into their surroundings, optimizing both functionality and aesthetics. This analysis of morphological integration fosters a deep-rooted connection between inhabitants and the natural world, thereby enhancing the overall quality of life within these spaces. Furthermore, the study of morphological integration extends beyond individual buildings to encompass entire urban landscapes. This approach recognizes that urban/architectural areas are not isolated entities but rather integral parts of the broader natural environment. Consequently, morphological integration serves as a guiding principle for designing spaces that are not only aesthetically pleasing and functional but also environmentally responsible, resilient, and conducive to a harmonious coexistence between humans and nature.



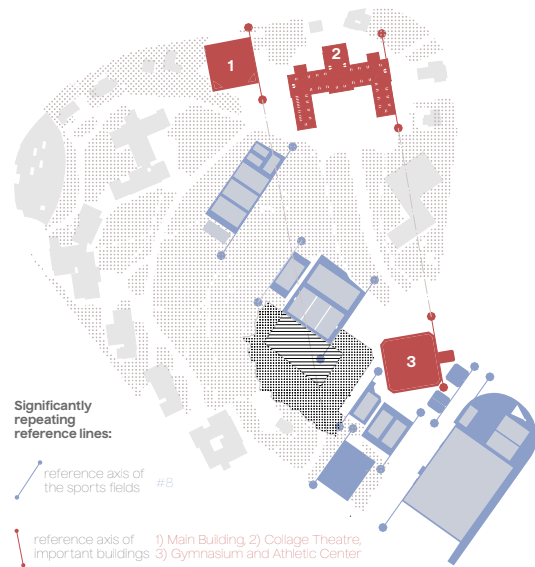
To broaden this context, one part of the campus can be taken to be researched where **(1)**the main building (Benaki Hall), **(2)**IB Building, and **(3)**the theater are situated. On the legend, one can see the traces of the buildings footprints which are specific to their forms; the buildings primary open spaces which Benaki hall generates in its courtyard; whereas, the theater generates around its structure; while the IB building doesn't generate any primary open space since it is located on the green area without dominating its territory. There are also shared open spaces between Benaki Hall and theater since they are programs are related; however this shared open space is more private than the secondary open space that these two buildings have generated.



Green area characteristics in Athens College Psychiko Campus and its surrounding

The buildings that are in different collaborations with their natural and built environments are also affecting their natural environments' characteristics that they are sharing the same context with. As one can expect, even if they are both the green areas, the green area that a residential site can generate and the green area that a church can generate are highly different in characteristics. Therefore, different generations of green are analyzed throughout the whole campus site and its surrounding areas.

Furthermore, buildings are forming a visual connection among them with their repetitive angles. All the pitches are in the same alignment and a contrasting reference axis demonstrated in prominent buildings such as the main building Benaki Hall), stage, and athletic center. Notably, the main building serves as a welcoming entry point for users entering through the main gate, while the stage and athletic center mimic this effect, culminating in a cohesive architectural language.



Repeated reference axis in Athens College Psychiko Campus, Greece

### **3.2 Programmatic synthesis:** Identifying affinities for effective hybrid environments

The project is a proposal of “The D.Daskalopoulos Arts Building” and its surrounding outdoor space at Athens College’s Psychiko Campus, owned by the Hellenic American Educational Foundation. The primary objective of constructing the “D. Daskalopoulos Arts Building” is to create an educational center dedicated to the Arts. The building aims to encourage student creativity, cultivate and highlight their skills, and enhance Science, Technology, Engineering, Arts & Mathematics (STEAM) education. The vision for the Arts Building is to create a vibrant and creative space where inspirational teaching meets the digital world. The new design should encourage the freedom of expression, offering educational facilities and exhibition space to boost the further pursuit of knowledge and the extension of experience. Teaching and learning should be spread and promoted in classrooms, workshops, corridors, and the surrounding natural space. In conclusion, the “D. Daskalopoulos Arts Building” should be a hub of creation and interaction for students, teachers, alumni, the artistic world, and visitors. It should provide world-class, inclusive, and interdisciplinary access to artistic education, and it should be a space for learning, creation, and discussion. The program consists of an Educational Centre, an Exhibition Space, underground auxiliary



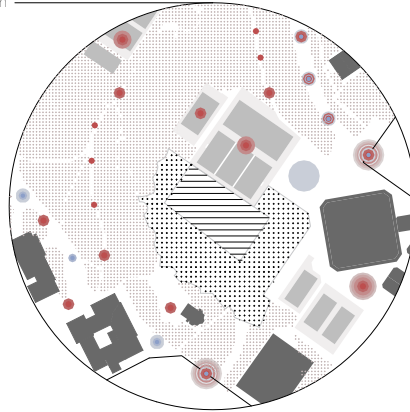
spaces, underground parking, and outdoor landscaping as part of the Arts Building. To work those various programs together to create an effective hybrid environment for the users; firstly, each programs' requirements should be examined; secondly, the site and its spatial, experiential characteristics should be investigated; finally, an analysis of how to work together those two investigations should be done. Starting with understanding the programs' requirements; the main program which is the education center can be looked at. The Educational Centre within the Arts Building must have all necessary facilities and infrastructure to accommodate the full range of subjects included in the International Baccalaureate's 'Group 6: The Arts,' which includes Visual Arts, Dance, Music, Theatre, and Film. The building design should be guided by Athens College's strategic goals and commitment, while taking into account that the Arts Building will serve not only the IB students but all students in the Junior High and High School of Athens College and Psychiko College. This educational center should include; two spacious lecture halls and study rooms for twenty-five students each; six studio spaces for visual arts (at least two of them should have independent access, in order to be able to be used by external students outside school hours); an auditorium; a dance room; a music room for solo and group performances and rehearsals which also serves as a recording studio; a library dedicated to the arts, with reading/computer rooms that could be connected to

the lecture rooms, and which are accessible to the public, a single office space (with five working stations) for teaching staff, an office for administrative staff, with a waiting area; a video editing and post-production room, that will also include equipment to explore with artificial intelligence, a storage space; restrooms, lockers, shower and changing rooms. As the second program of the exhibition space; it must have an open plan design with modular panels that allow for flexibility in space allocation. It should have a high ceiling of at least 6-7m in some areas or throughout and should be located in close proximity to the outdoor space surrounding the building. Additionally, the Exhibition Space must have a separate entrance independent of the Educational Centre. It is important to note that the Exhibition Space must have versatile lighting systems, flooring that is both durable and resistant, and a controlled humidity level. The Exhibition Space, should include of; a reception area, cloakroom, information centre, toilets, storage space, as well as a small café (for students and visitors). As another natural part of the program, there should be the re-designing of the outdoor space of the built environment. This outdoor area around the Arts Building should be an integral part of its activities and connected to it both functionally and conceptually. It will include landscape architecture proposals to ensure seamless integration into its natural surroundings and the wider student network. An area for assembly or a small outdoor theatre will also be

created to extend the educational and exhibition activities outdoors. As the final program, there should be an underground auxiliary spaces that can house the building's utility system as well as an underground parking space providing parking for the families and teachers. After the examination of the requirements of those various programs, one can start analyzing what kind of different spaces are created around the site in terms of their spatial, and experiential characteristics that one can understand with the help of senses. For instance, in the Athens College Psychiko campus, the examination is done in terms of various characteristic features of the surrounding area, including the concentration of people and vehicles, the ambient noise levels, and the social characteristics of the built structures. By studying and analyzing these factors, its easier to develop a design that seamlessly integrates various functions and programs while maintaining a cohesive and harmonious relationship with the surrounding built environment.

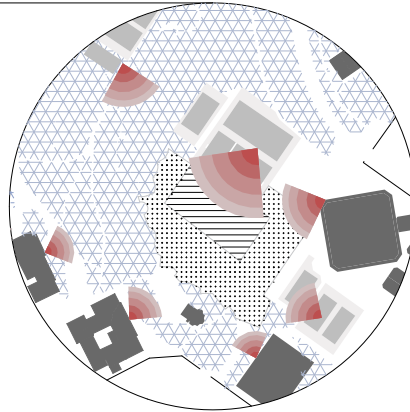
**Concentration Diagram**

- pedestrian
- vehicle
- pedestrian & vehicle
- parking



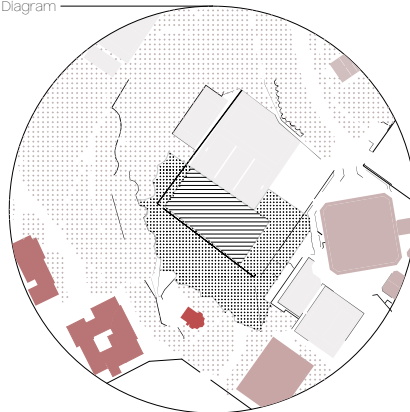
**Noise Diagram**

- sound creating areas
- sound isolation areas



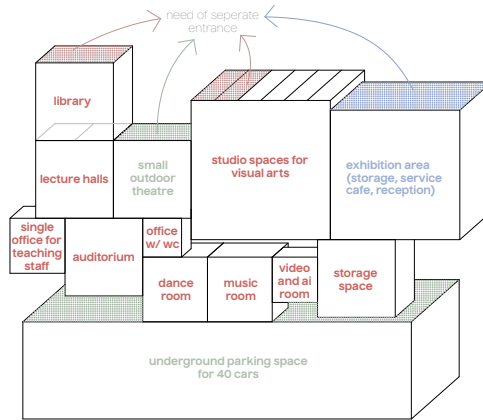
**Social Characteristics Diagram**

- extrovert
- introvert



Site analysis diagrams in Athens College Psychiko Campus, Greece

After conducting a thorough site analysis, the next critical step is to carefully consider the programmatic needs and requirements of the various functions to be accommodated within the structure. This involves an in-depth understanding of the unique characteristics and demands of each program, including factors such as lighting, noise levels, privacy, and functionality. To exemplify; programs that require ample natural light, such as art studios or lecture halls, should be located in areas with abundant natural light, while programs that require quiet or soundproofing, such as libraries or auditoriums, should be situated in quieter areas of the building or separated by sound barriers. Similarly, programs that generate noise or disruption, such as dance and music rooms, must be carefully located and acoustically isolated to minimize their impact on other areas of the building. By carefully analyzing and understanding the programmatic needs of each function, one can create a cohesive and functional hybrid environment that promotes collaboration, interaction, and productivity while ensuring the comfort and well-being of all users. Moreover, the consideration of programmatic requirements should not be limited to the interior of the building alone. Exterior spaces, such as courtyards, entryways, and outdoor gathering areas, must also be designed with the specific needs of each program in mind to create a seamless transition between indoor and outdoor environments.



Analysis on the possible mutualities of the programs in the proposed design

need of privacy (public ---> private)

outdoor theatre	exhibition area	auditorium	studio spaces	lecture halls	library	administration office	dance and music room	video and ai room	office for teaching staff	storage space
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need of silence (can work with noise ---> needs silence)

outdoor theatre	music room	dance room	exhibition area	administration office	auditorium	office for teaching staff	video and ai room	studio spaces	lecture halls	library
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need of light (no need natural light ---> needs natural light)

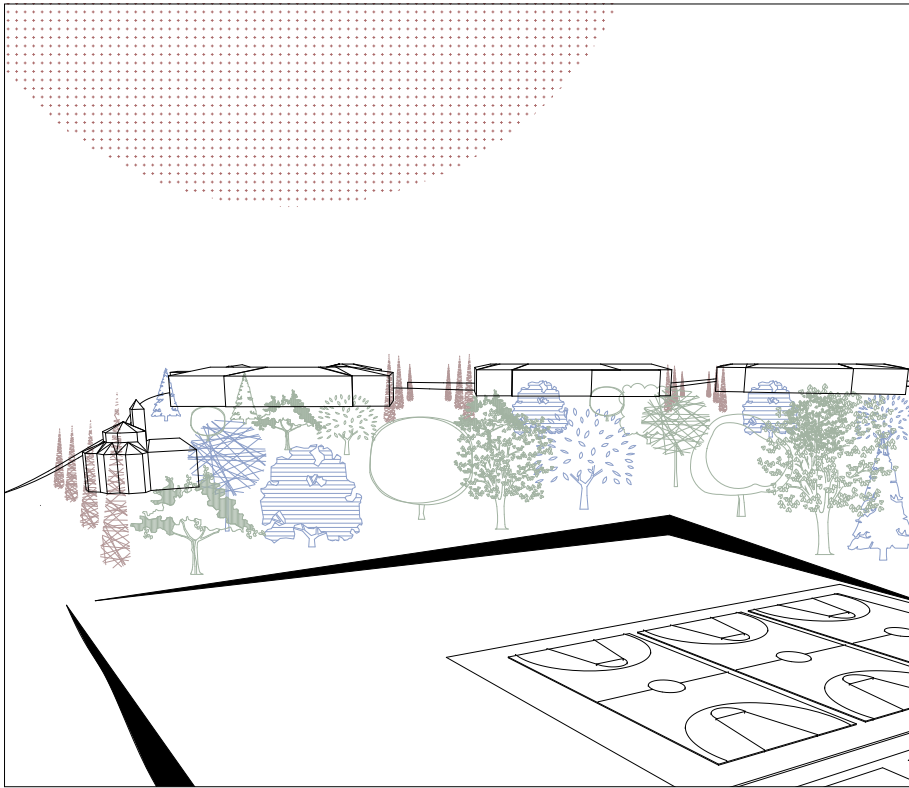
storage space	auditorium	video and ai room	exhibition area	dance room	music room	office for teaching staff	administration office	library	studio spaces	lecture halls
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possibility of disturbing others (silent ---> loud)

storage space	library	video and ai room	offices	lecture halls	studio spaces	auditorium	exhibition area	outdoor theatre	dance room	music room
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Analysis on characteristics of the programs in the proposed design

### 3.3 Connecting architecture and landscape: Potentialities and critical issues



Analysis on the existing topography in the site

In order to craft a thoughtful architectural project that demonstrates due reverence to its natural environs, a foundational design strategy pertains to the meticulous consideration of the existing natural ground. It is imperative that the built environment synergizes harmoniously with the extant topographical features and elevation differentials, rather than counteracting them. This necessitates a rigorous investigation into the topographic variations prevalent across the project site. Consequently, when scrutinizing the prospective location for the D. Daskolopoulos Arts Complex, it becomes apparent that, notwithstanding the designated construction zone's conformity to a level plane at ground elevation (zero level), the surrounding topography assumes a diagonal ascent to an elevation of +4. This elevation transition is facilitated by the implementation of retaining walls to maintain the integrity of the zero-level plane. Armed with this foundational knowledge, one can strategically allocate spaces within the complex, informed by a comprehensive study of hybrid building typologies and the requisite needs analysis. For instance, one prudent approach involves siting the auditorium, as well as music and dance rooms, in proximity to the elevated topographical region. This strategic placement aligns with the requirement for heightened sound isolation to prevent interference with concurrent programmatic activities. Furthermore, it capitalizes on the relative absence of natural light in these areas, a condition conducive to the optimal functioning of the auditorium.



### ***3.4 Drawing on the pre-existing***

"Drawing on the pre-existing" serves as the guiding principle in the design strategies of the project proposal, emphasizing the importance of embracing and building upon the rich tapestry of the past and present. Within this context, the design process involves a profound exploration of the historical, cultural, and environmental facets inherent to the chosen architectural subject. By delving deep into the existing conditions, it is been seeked to uncover valuable insights and inspirations that will serve as the foundation for innovative architectural solutions. This approach not only respects the heritage and context of the site but also strives for a sustainable and contextually relevant architectural narrative. In essence, the concept represents a commitment to creating designs that seamlessly weave the threads of history, culture, and environment into the fabric of the future, thereby contributing meaningfully to the evolution of the built environment. In the project scale, the pre-existing concept mainly focuses on the buildings' architectural languages that is actually correlated with the culture and the history. Realizing what important aspects are highlighted in the buildings designed in the past from different eras, gives clues of the new proposed design's strategies. By doing so, new complex can communicate in the same architectural language while understanding and respecting the other existing structures's prominent characteristics; both architecturally and also culturally.

***(IV) Design references of  
Architecture and Landscape in dialogue***  
Selecting design references in support of  
the design strategies

4.1 Ground-building relationship

4.2 Hybrid buildings: Educational and Sports Functions

4.3 The Mat-building concept: Evolution and Possible Applications

4.4 Solid&Void interior organization

***keywords***

-pavilion typology    -mat-building    -threshold    -inside/outside

-hybrid programs    -school/sports    -atriums    -courtyard

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*Design references of  
Architecture and Landscape in dialogue*

Selecting design references in support of  
the design strategies

The theme of underscores the intricate relationship between architectural and landscape design in the creation of holistic and harmonious environments. Within this thematic framework, the process of selecting design references plays a pivotal role in informing and reinforcing the overarching design strategies. It involves a rigorous examination of historical and contemporary architectural and landscape precedents, drawing inspiration from these sources to enrich the creative process. By engaging in a dialogue between architecture and landscape, it can be leveraged the inherent synergies between these disciplines to craft spaces that seamlessly blend indoor and outdoor realms. This theme encapsulates a commitment to thoughtful and informed design, where the synthesis of architectural and landscape references becomes a catalyst for the development of innovative, contextually responsive, and sustainable design solutions. The main references focus on the analysis of various buildings having different relationships with their grounds; hybrid buildings that are mostly functioning as schools or sports buildings; the mat-building concept and the buildings having different solid and void organization.

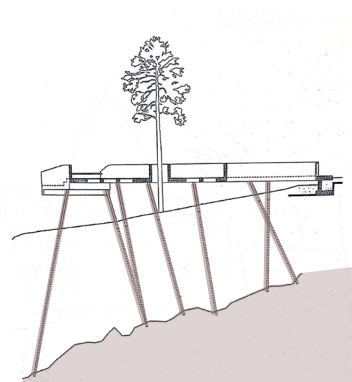
#### ***4.1 Ground-building relationship***

To gain a comprehensive understanding of the interaction between the natural and built environments, it is crucial to conduct a careful analysis of their aspects independently. To start with the natural environment, a range of aspects must be considered, including topography, climate, vegetation, water resources, and soil conditions. By examining these factors, developing a responsive design specific to the site is possible. Since the campus that the project will take place has a very specific dialogue between its buildings and its topography, one should first understand what kind of relationships are formed within the campus that one can imply to the design respective to its site. As discussed, the topography and the building relationships differ in each building yet they all communicate in a way to create a common architectural language. This design approach should be taken and be implied in the new project; however, one should analyze different ground-building relationships as case studies. Another case study topic can be the existence of a pavilion typology in the campus. The buildings are scattered around the green, yet articulating different connections within themselves and with the others. Therefore, this pavilion typology should be further investigated and be supported with the case studies especially sharing the same site specifications of Mediterranean climate and/or region.

Topography, in particular, is an important consideration, and architects should ask questions such as how buildings connect with the soil, and how these interactions impact the surrounding natural environment. Alvaro Siza emphasizes the significance of the site in the design process, stating that the ideas developed during the initial visit are the most important (Berlanda, 2014, p. 74). Similarly, Le Corbusier underscores the importance of topography, describing how he took note of the slope and features of the terrain and “sniffed” the topography when designing the convent at la Tourette (Berlanda, 2014, p. 88). There is no certain correct way on how buildings are touching their grounds; yet there are many ways how they can be in a relationship with their own soils specifically. Where one claims to use the soil in its fullest potential and well-rooting the buildings to the earth where needed, the other one such as Le Corbusier may support an artificial ground where the soil is untouched and stayed with all its irregularities and functioning its sole purpose which is to carry the vertical loads of the structure. Furthermore, relating the built environment with the natural one they are in, not only psychological but also visual connections can also formed by the repetitive angles that are respecting a way of their natural environment functions.



Sverre Fehn, Ivan Aasen Centre, Ostra, Norway, 1996-2000 (Berlanda, 2014)



Section drawing, Carl-Viggo Holmebakk, Sohlbergplassen viewing platform, Sholbergplassen, Norway, 1995-8 (Berlanda, 2014)

In Fernando Tavora's words "the first act of the building is the intuitive and at the same time rational decision on the move in which the building must touch the ground" (Berlanda, 2014, p. 88) the word 'rational' also reminds how it should have some analytical reasoning behind the relationship of the building with its land. This sequence of reasonings in an overall site where the built environment talks the same architectural language or creates a whole architectural language together, one starts seeing the systematic design principles given on that context.

Thus, working with topography -instead of against it- enriches the concept of its uniqueness and makes it solely specific to its site just as Greek architect Dimitris Pikionis believes. Being among the prominent architects of modernism era, Dimitris Pikionis (1887-68) recognized the significance of location and history and was critical of the ahistorical approach of internationalism. He was an early critic of modernist town planning, which he saw as a disrespectful imposition on the local environment, referring to it as "arbitrary games played with a pencil on a piece of tracing paper and then transferred onto our sacred land". Although he did not subscribe to the functionalist principles of modern architecture, he admired the avant-garde architects of his time, including Le Corbusier, whose work he felt had similarities to his own ideas. One of his works in this context was the "Elementary School, Lycabettus Hill Athens" (1935) which is characterized by its integration with the surrounding landscape. Rather than having clear and rigid boundaries, the building and its environment are interconnected, with the natural features of the site blending into the structure. The different elements of the school are not reliant on one another, but there is a sense of interdependence between them (AA press, 1989). The way he arranged the masses throughout the natural heights of the topography gave each classroom direct access to open air whereas providing private courtyards that the teaching activities can extend. (Prestel, 1999)



Elevation drawings of elementary School at Pefkakia, Lycabettus Hill, Athens, 1931-32 by Dimitris Pikionis (Prestel, 1999)

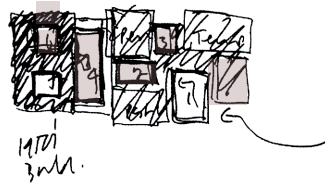
This nuanced equilibrium between the natural and built environment in Pikionis' design was achieved through a well-considered typology that generated intermediary spaces, enabling a harmonious relationship between the internal and external areas. Such an approach highlights the potential for typological works to seamlessly integrate the built environment with the natural environment by achieving a fine balance between openness and closure. Through this balanced ratio, the built environment can be woven into the natural environment, generating a more dynamic, holistic architectural experience that reflects the intertwined relationship between architecture and nature. Hence, beyond the relationship between the foundation and the ground, there is a critical aspect to consider when designing with



a nature-integrated approach: achieving a balanced solid-void ratio within the building. This entails a deliberate consideration of the interplay between the solid masses and the empty spaces of a structure. By thoughtfully modulating this ratio, architects can create an integrated design that cultivates an enriched relationship between the built environment and the natural world. A sensitive approach to this balance can help to activate a building's capacity to foster a sense of connection to the landscape, thereby enriching the overall architectural experience. This approach is also embraced by many contemporary architects all around the world. Two examples of it can be "The Liangzhu Museum in Hangzhou, China & The Museum Folkwang in Essen, Germany" by the British architect David Chipperfield. The Liangzhu Museum incorporates a series of courtyards as intermediary spaces between the interior galleries and the surrounding landscape. These courtyards serve as transitional zones, blurring the boundaries between the indoor and outdoor spaces and creating a dynamic flow between them. They are designed to reflect the ancient Liangzhu culture's reverence for nature and their relationship with the landscape and by incorporating these spaces, the museum provides visitors with a unique architectural experience that fosters a sense of contemplation and connection to the natural world. In the case of Museum Folkwang, the courtyards serve a dual purpose. First, they serve as transitional zones, blurring the boundaries between the indoor and outdoor spaces and creating seamless flow between them;



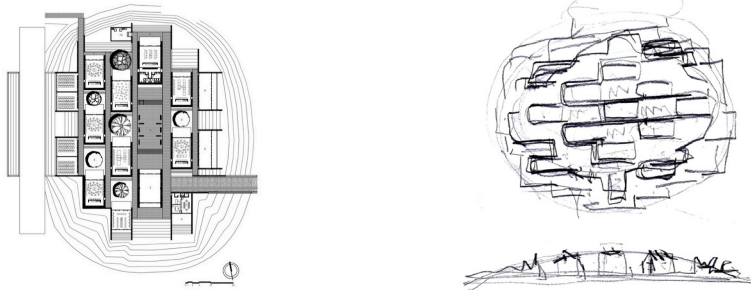
Plan drawing of the Liangzhu Museum, Hangzhou, China, David Chipperfield (El Croquis Magazine)



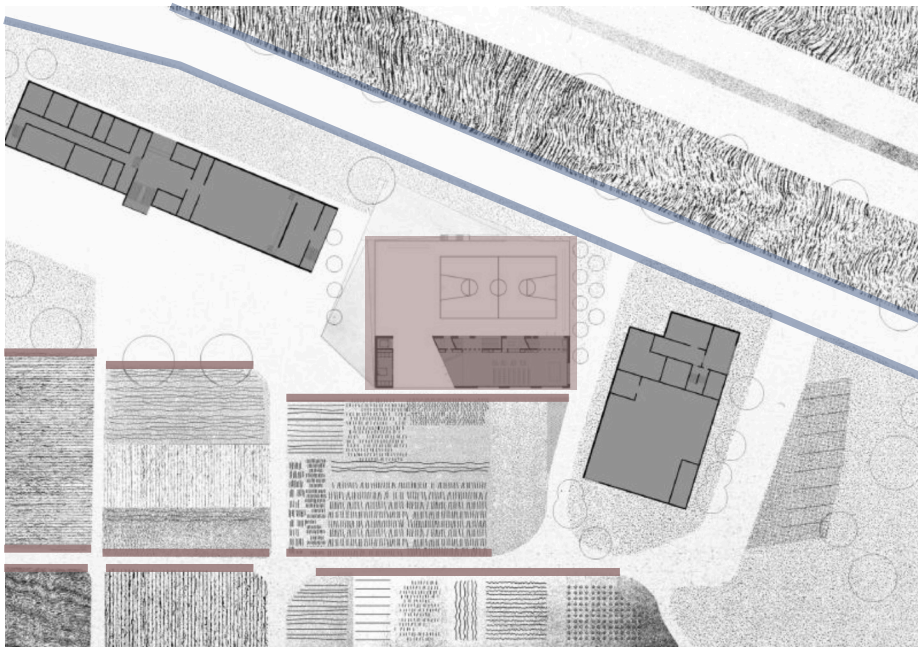
Sketch of the The Museum Folkwang, Essen, Germany David Chipperfield (El Croquis Magazine)

secondly, they also act as exhibition spaces in their own right, providing a platform for outdoor installations and performances. As a result of these two examples, one can see that creating intermediary spaces like courtyards can have more qualities such as connecting the architecture with a cultural identity like in the Liangzhu Museum, or serving a functional purpose as in Museum Folkwang. This typology-reason relationship is and must be specific to its site, program; therefore, the context and the content. In the case of Athens College's Psychiko Campus, the courtyards exist mainly for serving different privacy levels for different users and different programs.

An illustration of a well-balanced relationship between the built ground and natural ground can be observed in the School of Plastic Arts designed by Mauricio Roha. The strategic placement of the courtyards in conjunction with the topography of the site plays a pivotal role in the overall design. The courtyards are arranged in a stepped configuration, meticulously following the contours of the terrain, resulting in a harmonious coexistence between the built environment and the natural landscape. Additionally, this design approach contributes to minimizing the visual impact of the buildings while also reducing their footprint on the site. Furthermore, the semi-open spaces created by this arrangement provide users with an opportunity to experience and appreciate the natural surroundings while engaging with the built environment.




Drawings of "School of Plastic arts - Benito Juarez Autonomous University of Oaxaca"  
Taller de Arquitectura, Mauricio Roha, in Mexico



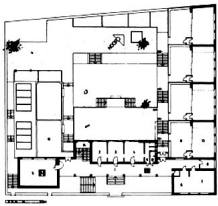
Plan drawing of De Wijnpers School of agriculture" by Office Kersten  
Geers David Van Severen, Mechelsevest, Belgium (2014)

Where built environments generate the natural environments specific to their programs, the opposite relationship is possible where the built environments reacting to their natural environments in the design phase. One of this example is "De Wijnpers School of agriculture" by Office Kersten Geers David Van Severen which the new school design is located in the alignment of the agricultural lands surrounding it that created better connection with its main purpose instead of other buildings or the roads. One similar repeated alignment can be found in Athens collage's campus buildings where all the pitches are in the same alignment

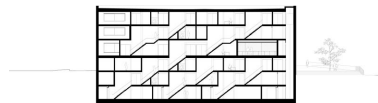
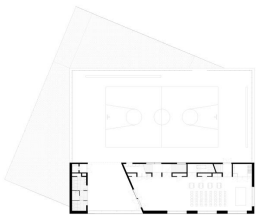
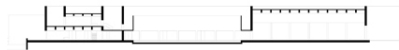
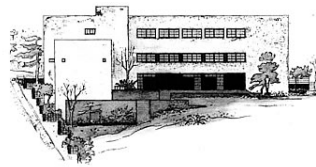
Reference atlas of "ground-building relationship"

Project	Image
<p>"Elementary School at Pefkakia, Lycabettus Hill, Athens" by Dimitris Pikionis</p>	
<p>Liangzhu Museum, Hangzhou, China by David Chipperfield</p>	
<p>De Wijnpers School of Agriculture, Mechelsevest, Belgium by Office Kersten Geers David Van Severe</p>	

Plan



Section



## *4.2 Hybrid buildings: Educational and Sports Functions*

As urbanization continues to accelerate and available land for new developments becomes increasingly scarce, architects and designers are faced with the challenge of creating hybrid environments that can accommodate multiple building programs within a limited area. The integration of disparate building programs presents unique opportunities to create dynamic, multi-functional spaces that serve a wide range of users and promote community interaction. However, it also poses a number of design challenges, including balancing conflicting programmatic requirements, ensuring spatial efficiency, and maintaining a coherent architectural language.



Designing hybrid buildings that successfully integrate multiple building programs requires a deep understanding of the unique requirements and characteristics of each program. One must carefully balance the functional and spatial needs of each program, considering the experiential qualities of the space. Effective programmatic synthesis requires an approach that considers not only the immediate needs of the building programs, but also the broader context, including the surrounding urban fabric, landscape, and cultural/historical significance. By balancing these considerations and leveraging the unique opportunities presented by hybrid environments, architects can create buildings that also contribute to the overall vitality and vibrancy of the surrounding community. The Frei Universitat Berlin, designed by architects Georges Candilis, Alexis Josic, and Shadrach Woods in the 1960s, is a notable example of a hybrid building that integrates disparate building programs. One of the key design principles was the architects' research into the social dynamics of individual and group living. They believed that the design of the built environment could play a significant role in shaping social interactions and promoting a sense of community among users. To this end, they designed the building to integrate both academic and residential spaces, with shared public areas and communal spaces

**Articulation of Public and Private Domains**  
**Die Artikulation öffentlicher und privater Bereiche**  
**Articulation des domaines public et privé**

1. THE IDEA OF UNIVERSITY  
 THE NEED FOR AND RELEASE OF  
 GENERAL AND SPECIAL INFORMATION



IDEA OF UNIVERSITY

2. THE UNIVERSITY IS COMPOSED OF  
 INDIVIDUALS AND GROUPS, WHO DO  
 ALONE OR TOGETHER, IN DIFFERENT  
 DOMAINS. THESE INDIVIDUALS  
 WORK TOGETHER THEY TAKE ON  
 NEW CHARACTERISTICS AND DEVELOP  
 NEW IDEAS.



3. THE UNIVERSITY AS IT SEEMS TO BE:  
 BUILDINGS CONTRIBUTE TO THE  
 ISOLATION OF SPECIFIC DISCIPLINES.

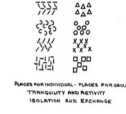


RETURNING TO THE IDEA OF  
 UNIVERSITY

4. BUT THE NEEDS OF BUILDINGS  
 AND THE NEEDS OF DISCIPLINES  
 IN THE GROUP.  
 THE GROUP IS INDIVIDUALS WHEN  
 THERE IS NO PLACE FOR THE  
 INDIVIDUAL.



5. THE RELATIONSHIP OF GROUP AND  
 INDIVIDUAL MUST BE UNDERSTOOD  
 IN TERMS OF ACTIVITY AND AREAS OF  
 TRANQUILITY FOR THE INDIVIDUAL.  
 IF THE GROUP IS EVERYWHERE, THERE IS  
 NO GROUP BECAUSE THERE IS NO  
 INDIVIDUAL.



INDIVIDUALS GROUPS  
 TRANQUILITY AND ACTIVITY  
 RELATION AND BEHAVIOR

6. THE EXTERNAL EXPRESSION OF  
 DIFFERENCES IN FUNCTION CAN  
 TAKE AS IMPORTANT AS THE  
 BUILDINGS IT AND INDIVIDUAL  
 FOR REPRESENTATIVE FORM ALSO  
 TEND TO SEPARATE THE INDIVIDUAL  
 INTO SPECIALIZED INSTANCES ONLY.



7. IF EACH PART OF A SYSTEM BEING  
 THE PROPER ORGANIZATION  
 NECESSARY TO THE REQUIREMENT OF  
 DISCIPLINES, THE SPECIFIC  
 DOMAINS OF DIFFERENT FUNCTIONS  
 ARE RECORDED WITHIN A  
 GENERAL STRUCTURE WHICH  
 EXPRESSES UNIVERSALITY.



8. IN EVERYWHERE TYPE BUILDINGS  
 INDIVIDUALS TEND TO BE SEPARATED.  
 THE RELATIONSHIP FROM ONE PERSON  
 TO ANOTHER IS TENUOUS, ALTHOUGH  
 INSTANTANEOUS, PASSING THROUGH  
 THE SINGLE MACHINE LIFT.



9. IN A GROUND-FLOOR ORGANIZATION  
 GROUPS FORMULATED BY COMMUNITY  
 AND EXCHANGE ARE PRESENT WITHOUT  
 NECESSARILY BEING PRESENT WITH  
 TRANQUILITY.

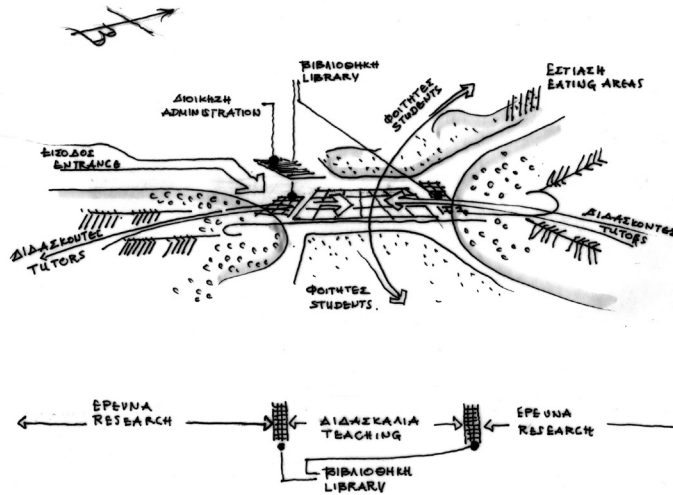


10. TENTATIVE USE OF A MINIMUM  
 VERTICAL SEPARATION WHERE INDIVIDUAL  
 AND GROUP ARE DETERMINED  
 NECESSARILY RELATIONSHIPS.



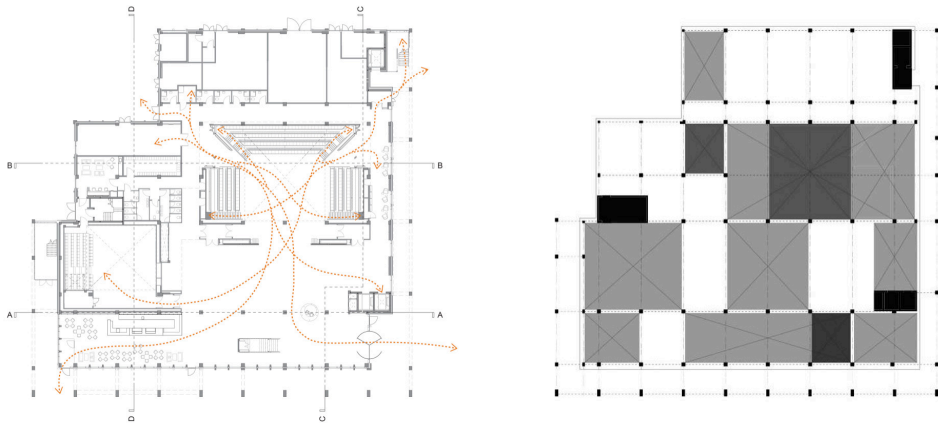
The studies of Candilis, Josic, Woods on group and individuality

that encourage interaction and collaboration among users. The architects also employed a modular design approach that allowed for flexibility and adaptability over time, recognizing that the needs of users and the broader community are constantly evolving. Another notable example of a hybrid building is the Technical University of Crete designed by architects Dimitris and Suzana Antonakakis of Atelier 66, located in Chania, Crete. The architects employed a rigorous research-driven approach to designing the building, focusing on the concept of hybrid environments and exploring the potential of integrating disparate building programs to create a dynamic and multifunctional space. Through extensive research and analysis of similar projects, the architects identified a number of key principles for designing effective hybrid environments include creating flexible and adaptable spaces that can accommodate a variety of uses, integrating sustainable design strategies to minimize environmental impact, and prioritizing user experience and comfort. There are a series of interconnected buildings that blend seamlessly with the surrounding landscape including a variety of spaces for learning, research, and recreation, including classrooms, laboratories, libraries, and sports facilities. The architects also incorporated sustainable design strategies such as natural ventilation, rainwater harvesting, renewable energy sources to minimize the environmental impact of the building. In the design process of creating effective hybrid environments, archi-



The studies of Dimitris and Suzana Antonakakis designing Technical University of Crete

Architects should take into consideration the program characteristics of other built structures within the same context as the proposed design, as exemplified by Greek architects Dimitris and Suzana Antonakakis. This research-driven approach allows for a more thorough understanding of the social and environmental factors that influence the site and the potential users.



Town House, London Kingston University by Grafton Architects. Retrieved from: <https://www.graftonarchitects.ie/Town-House-Kingston-University-London>

As a more contemporary example, Grafton Architects' Town House of Kingston University London project is a demonstration of their mastery in designing flexible and functional spaces. The town house project comprises a series of interconnected spaces that are designed with an open plan and a grid-like arrangement, allowing for maximum flexibility in usage in a hybrid building consisting of university library, event space, dance studios, music rooms. The use of an open plan layout in the town house project enables the space to adapt to various needs and activities. The lack of internal walls allows for the creation of various functions within the same space.



"Berrel Kräutler Architekten" Secondary School, Switzerland. Retrieved from: <https://divisare.com/projects/326438-berrel-krautler-architekten-secondary-school>


However, in the secondary school designed by Berrel Krautler Architekten there's a more rigid boundaris between hybrid programs such as the classrooms are grouped around a central atrium, which serves as a communal area for students and staff. The classrooms are arranged in a way that ensures maximum natural light and ventilation, creating a comfortable learning environment. The sports and leisure zone comprises a large gymnasium, a swimming pool, and a sports hall, all interconnected and arranged around a central courtyard. This arrangement ensures that the sports facilities are well connected and that they provide a visual and physical link to the outside environment.

The Coslada Hybrid Complex is an example on how different functions can be bounded with an artificial ground mainly focusing on the socializing and leisure programs. The colorful band goes through every function; thus connects them all together and help them work well with each other.



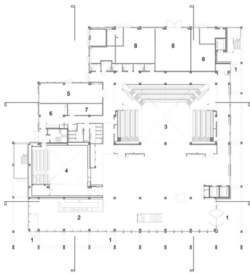
The "Coslada" Hybrid Complex, Spain. Retrieved from: <https://divisare.com/projects/290855-amann-canovas-maruri-david-frutos-the-coslada-hybrid-complex>

*Reference atlas of "Hybrid buildings: Educational and Sports Functions"*

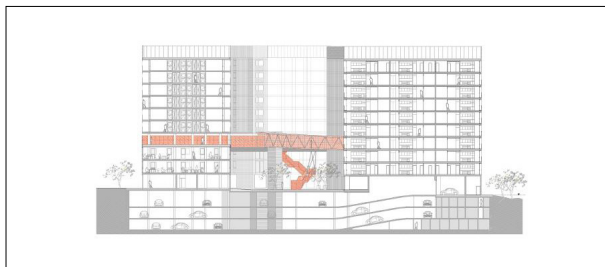
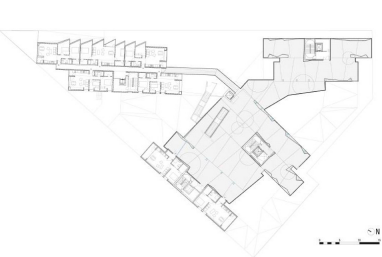
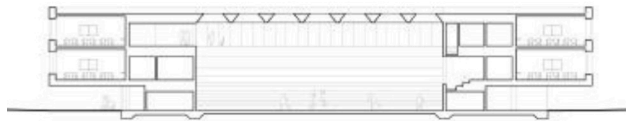
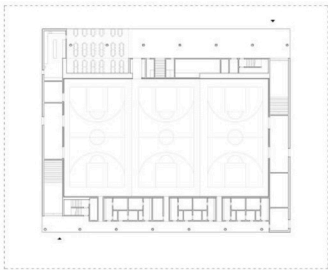
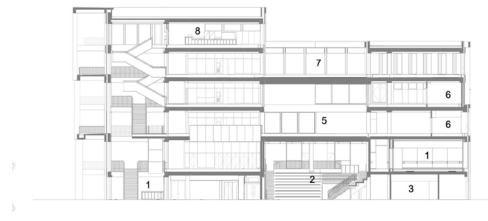
Project	Image
<p>"Town House, London Kingston University" by Grafton Architects</p>	
<p>"Berrel Kräutler Architekten" Secondary School, Switzerland. by Berrel Kräutler Architekten</p>	
<p>The "Coslada" Hybrid Complex, Spain. by Amann, Canovas, Maruri</p>	



Plan



Section



### **4.3 *The mat-building concept***

The mat-building concept in architecture embodies a design approach characterized by flexibility, adaptability, and sustainability. Drawing inspiration from the inherent properties of a mat, which exemplifies a dense interconnected network of fibers or materials, this concept aims to create buildings that can dynamically respond to evolving needs, accommodate diverse functions, and optimize resource utilization. By emphasizing modularity, connectivity, and multifunctionality, mat-building enables the construction of structures that can be easily modified or reconfigured, promoting efficient use of materials and minimizing waste. The multifunctionality inherent in the mat-building concept encourages the optimization of space utilization by accommodating diverse activities within a single building or space. This versatility not only maximizes the efficiency of resources but also enhances the user experience, facilitating collaboration, innovation, and creativity. In addition to its practical benefits, the mat-building concept aligns with sustainable development principles. The emphasis on efficient resource utilization and the ability to repurpose or recycle modular components contribute to reduced waste generation and minimized environmental impact. There are some case studies related with the mat building concept that made a contribution to the project's design process.

The School of Plastic Arts at the Benito Juarez Autonomous University of Oaxaca, designed by Taller de Arquitectura, Mauricio Rocha, in Mexico, exemplifies this concept. The design incorporates modular elements that can be easily reconfigured to accommodate diverse educational activities, allowing the building to respond to the evolving needs of the School of Plastic Arts while creating a dynamic and interconnected structure. The interconnectedness of these modules promotes efficient resource utilization, optimizing space and materials. The multifunctional spaces within the building foster creativity and collaboration, providing students and faculty with versatile environments for artistic exploration. By embodying the concept of the mat, the School of Plastic Arts at the Benito Juarez Autonomous University of Oaxaca serves as a prime example of a resilient, adaptable, and sustainable architectural solution that caters to the needs of its users while minimizing its environmental impact.



"School of Plastic arts - Benito Juarez Autonomous University of Oaxaca"  
Taller de Arquitectura, Mauricio Roha, in Mexico

Another example is The "Laboratorio de House de Margherita" project which showcases elements of the mat-building concept through its design approach. The design of the house allows for the reconfiguration of spaces to accommodate different functions and suit changing needs over time that emphasize adaptability. The use of modular elements and flexible partitions provides the ability to modify the interior layout, responding to the evolving requirements of the occupants. Spaces are designed to serve multiple purposes, allowing for versatility and efficient utilization of space. For example, the integration of a central courtyard that can be transformed into an open-air workspace or social gathering area exemplifies this concept of multifunctionality.






Laboratorio de House de Margherita by Sergio Sebastian  
Retrieved from: <https://www.sergiosebastian.es/casa-margarita/5nxfujc2cla2xczq1nwlz8wnemipls>



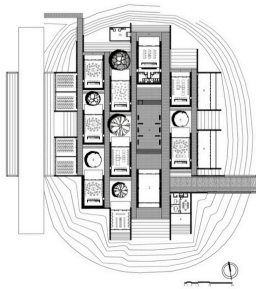
"Instituto Politécnico Superior de Valencia" by L35 Arquitectos  
Retrieved from: <https://architecturedesignstudio5.wordpress.com/2019/02/16/instituto-politecnico-superior-de-valencia-by-l35-arquitectos-1970-1975/>

The "Instituto Politécnico Superior de Valencia" designed by L35 Arquitectos also embodies the innovative mat building concept, redefining the architectural landscape of Valencia. The building's mat-like structure sprawls across the site, creating a harmonious connection between the natural surroundings and the built environment. This case study is comparatively on a bigger scale and shows how different functions in educational buildings can exist together in this mat-building concept which influences the thesis project.

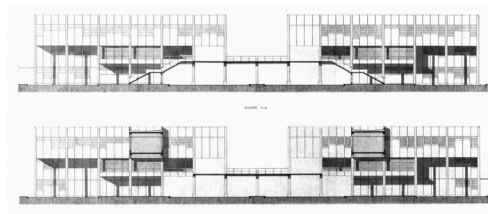
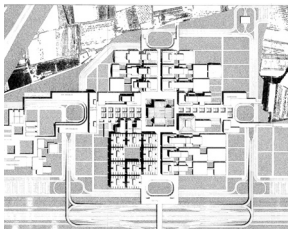
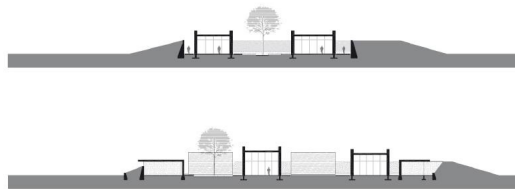
**Reference atlas of "mat building concept"**

Project	Image
<p>"School of Plastic arts- Benito Juarez Autonomous University of Oaxaca"  by Taller de Arquitectura, Mauricio Rocha, in Mexico</p>	
<p>"Laboratorio de House de Margherita"  by Sergio Sebastian</p>	
<p>"Instituto Politécnico Superior de Valencia"  by L35 Arquitectos</p>	

Plan



Section



#### ***4.4 Solid&void interior organizations***

Buildings with different solid and void organizations represent a compelling architectural concept that explores the interplay between solid mass and open space within a structure. This design approach embraces the strategic placement of voids, such as skylights, atria, and gallery spaces, alongside solid elements, creating a dynamic spatial composition that influences the overall experience of the built environment. The integration of voids introduces natural light, visual connections, and spatial hierarchy, enhancing the occupants' perception and interaction with the architecture. Skylights, for instance, provide an opportunity to infuse interiors with natural illumination, creating a harmonious relationship between the built environment and the external surroundings. Gallery voids, on the other hand, introduce vertical and horizontal circulation paths, facilitating movement and promoting visual connections between different levels or areas within the building. These voids not only serve functional purposes but also establish a sense of openness and transparency, allowing for the seamless integration of interior and exterior spaces. The careful manipulation of solid and void elements in building design results in captivating architectural compositions that harmoniously balance privacy and openness, utilize natural light and shadow play, and create a spatial experience that seamlessly integrates fluid connectivity and moments of introspective reflection.



The Leopold Museum in Vienna exemplifies the concept of space division through the strategic arrangement of architectural elements. The museum employs a combination of walls, partitions, and spatial transitions to create distinct zones within the building. These divisions serve multiple purposes, such as guiding visitor flow, creating intimate gallery spaces, and facilitating thematic exhibition areas. By strategically placing walls and partitions, the museum establishes a clear spatial hierarchy, allowing for a seamless transition between different areas while maintaining a cohesive design narrative. Additionally, the incorporation of voids, such as atriums and skylights, introduces natural light and visual connections, further enhancing the division of space.



Leopold Museum by O&O Baukunst

Retrieved from: <https://divisare.com/projects/259785-o-o-baukunst-rupert-steiner-leopold-museum>

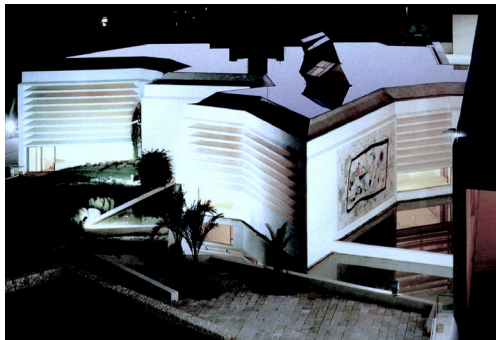
The EPFL GA Building, features an internal courtyard that serves as a central gathering space and focal point within the architectural composition. The courtyard acts as an open and inviting oasis, providing a natural gathering area for building occupants and visitors. The surrounding spaces seamlessly connect with the courtyard, allowing for visual and physical interaction. Large windows, glass partitions, and open walkways facilitate a strong visual relationship between the internal spaces and the courtyard, creating a sense of unity and openness. It demonstrates how the internal courtyard serves as a central hub, fostering connectivity, and enriching the spatial experience for its occupants.



EPFL GA Building by Group 8

Retrieved from: [http://www.group8.ch/en/projects/epfl-daycare-center\\_35](http://www.group8.ch/en/projects/epfl-daycare-center_35)

However, in the design of the Pilar and Joan Miró Foundation, architect Rafael Moneo skillfully manipulated the solid and void relationship on the façade more than the interior to achieve a harmonious composition. Moneo employed fixed facade elements strategically to control and modulate the play of natural factors such as light, shadow, and views. The careful placement of those solid elements creating a strong presence on the façade, framing and emphasizing void spaces. Through meticulous design, the architect controlled the amount and direction of natural light entering the building, influencing the ambiance and spatial experience while controlling the interplay between solid and void elements which is an important study for the organization of the facade in the project of Dimitris Daskalopoulos Building of Arts.

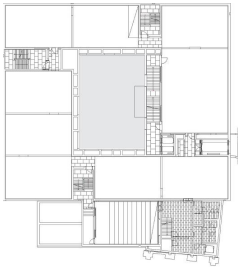


Pilar and Joan Miro Foundation by Rafael Moneo  
Retrieved from: El Croquis Magazine

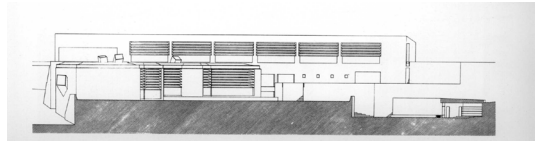
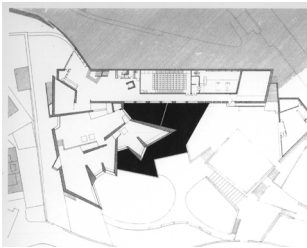
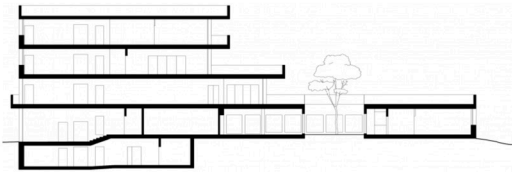
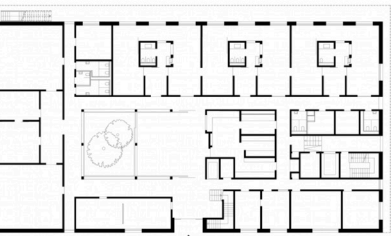
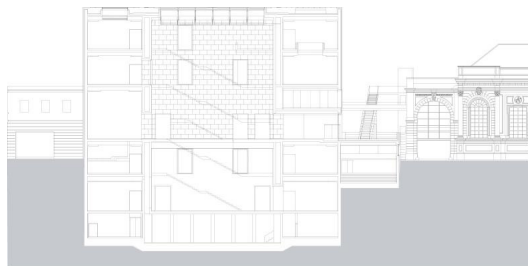
Reference atlas of "solid&void interior organizations"

Project	Image
<p>"Leopold Museum" Ortner &amp; Ortner</p>	
<p>"EPFL GA Building" by Group 8</p>	
<p>"Pilar and Joan Miro Foundation" by Rafael Moneo</p>	

Plan



Section



**(V) Design project:**  
**"The Dimitris Daskalopoulos Arts Building":**  
**A Complex for the Arts**  
Designing a synergetic hybrid complex that  
connects architecture with nature

5.1 Volumetric articulation and spatial arrangement

5.2 Nature as an architectural element: treshold/filter spaces

5.3 Natural climatic control devices: the facade solutions

5.4 The roof as an architectural system: blending into the nature

5.5 Project boards

*keywords*

-volume

-space

-blend

-climatic control

-nature

-filter spaces

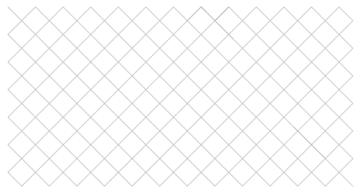
-fifth facade

-green roof

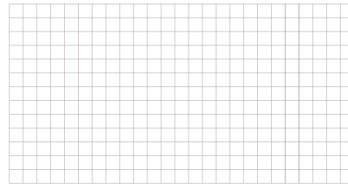
**D. DASKALOPOULOS  
ARTS BUILDING**



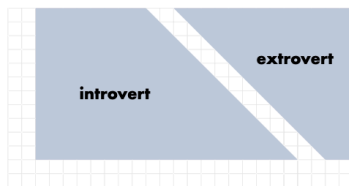
## 5.1 Volumetric Articulation and spatial arrangement



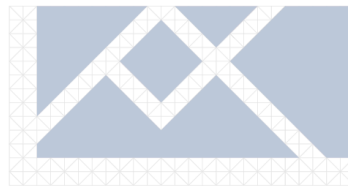
**1)** Creating a structural grid from an important reference axis in the site's boundaries (45 degrees)



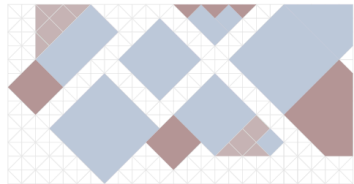
**2)** Juxtaposing the diagonal grid with the sports field orthogonal grid



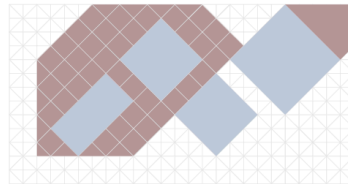
**3)** Deciding on the introvert and extrovert zones and creating the main path for the main entrance



**4)** Introducing secondary paths in the system as a semi-open corridor system



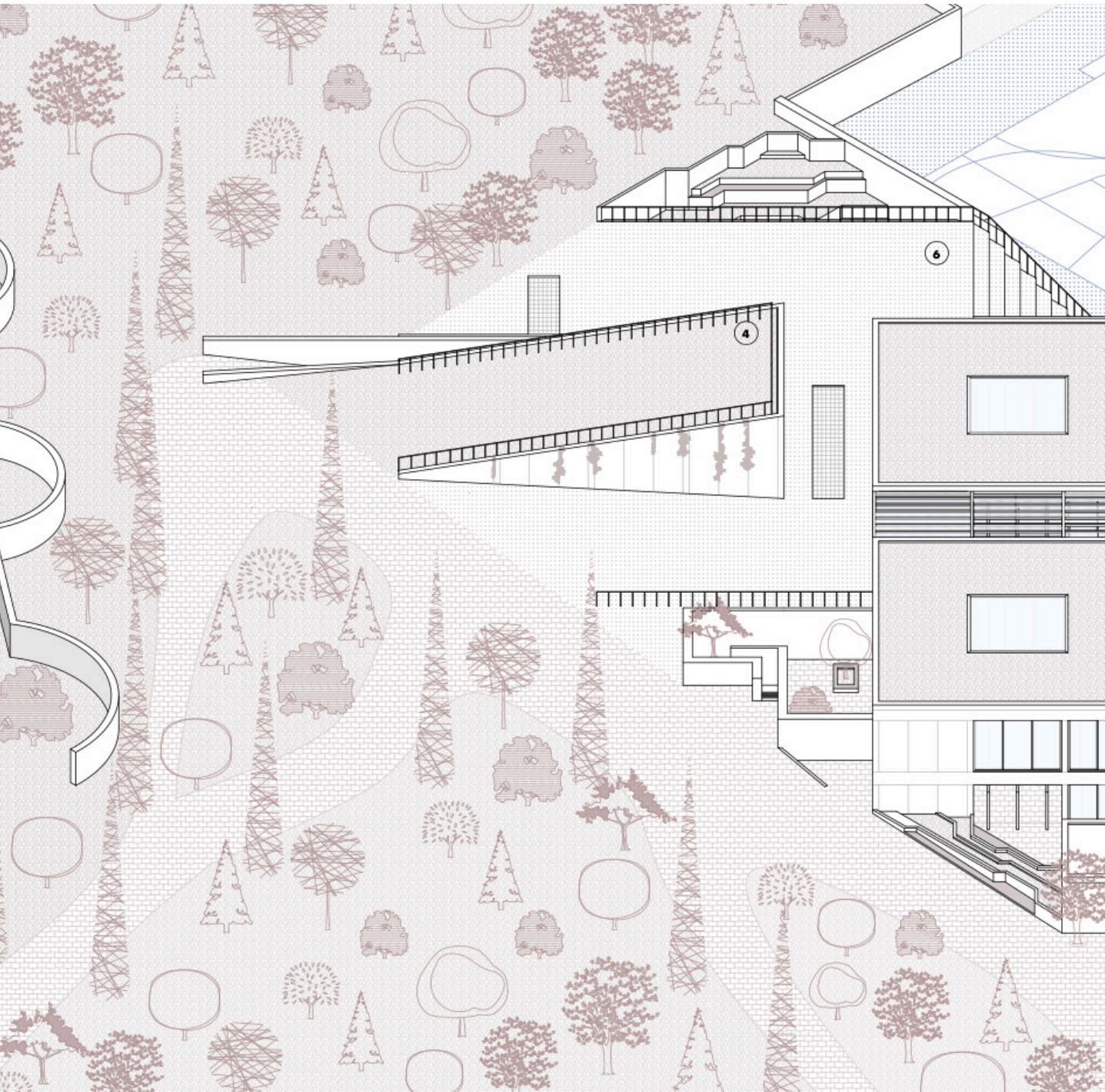
**5)** Mimicing the pavilion typology existing in the site and creating the areas on the ground floor

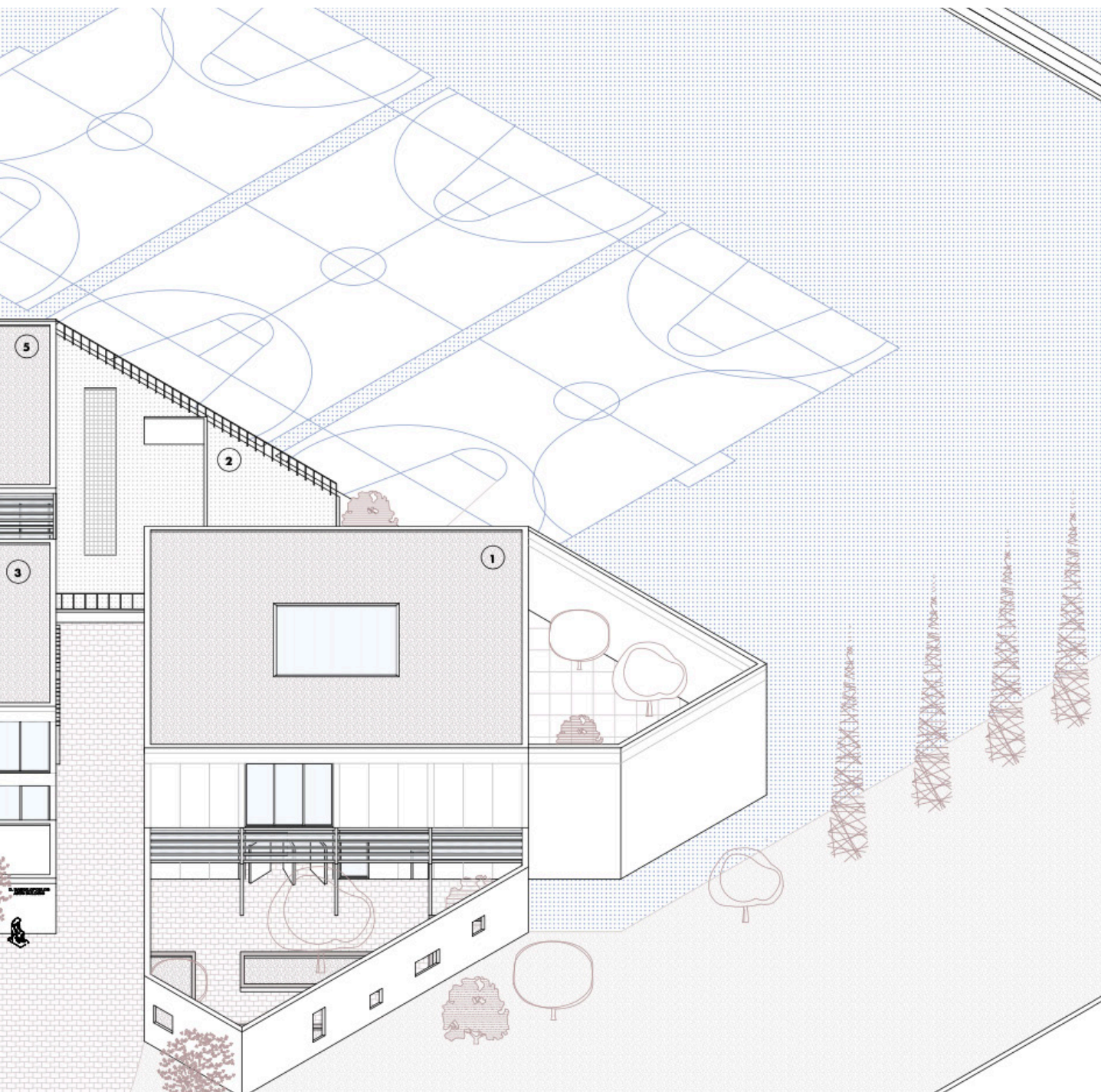


**6)** Mimicing the pavilion typology existing in the site and creating the areas on the first floor



The main principle behind the mass articulation of the art school complex are the two angles; one is 45 degree coming from an important angle repeating on the campus buildings and also turning itself to the two entrances, while the other one is 90 degree parallel to the sports field in front of the site that opens a dialogue between these two. Those two angles having their own grids are juxtaposed and the 45 degree angle having 6x6m structural grid is been used for the solid buildings and their private gardens; whereas the combination of those two grids are used for the other more flexible elements such as the landscape arrangements, stairs; garden walls etc. The second principle is the concept of pavilion typology which the overall campus buildings have with each other; therefore mimicing this pavilion typology in a smaller scale of a building complex represented the design to be related with its context and the culture. Due to the program of hybrid building complex; each pavilion type of building has one program within their one floors that are separated by open or semi-open corridors that gives the feeling of enterin a space from outside corridors while being controlled of the climate. The access to their upper floors exist inside of each building; however multiple ways of accesing to the artificial ground of the educational part is also provided since it's seen also as an individual architectural mass in the overall design. Lastly, a unique solid and void relationship is provided by the connection of topography.







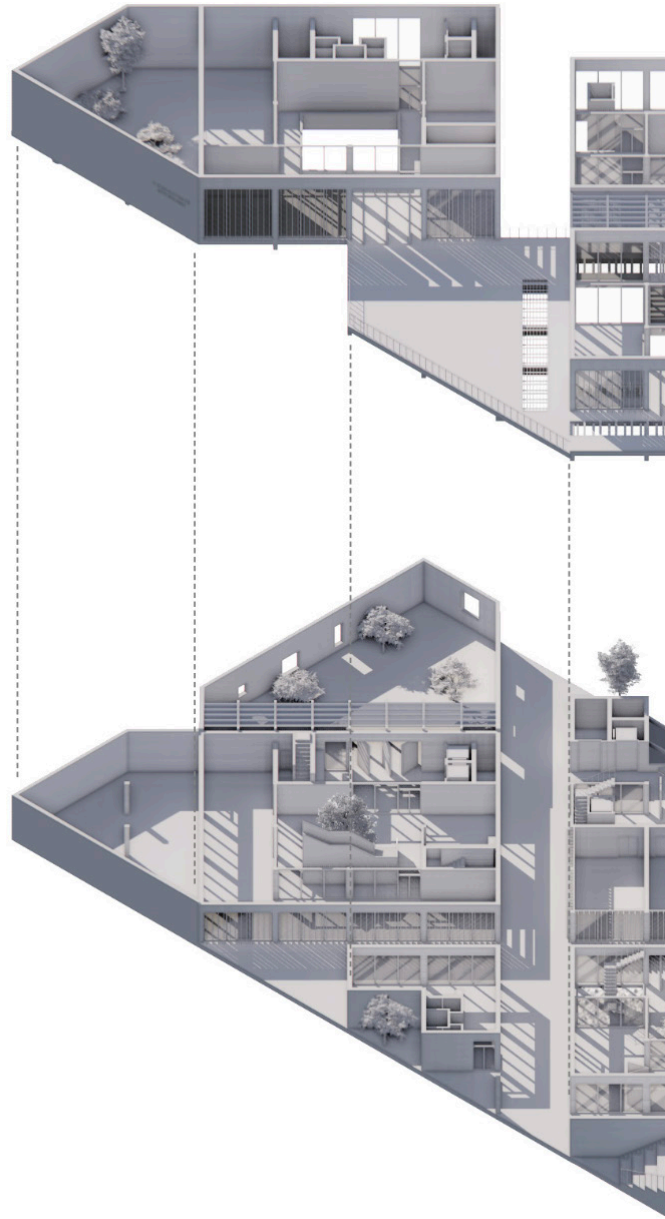
first floor

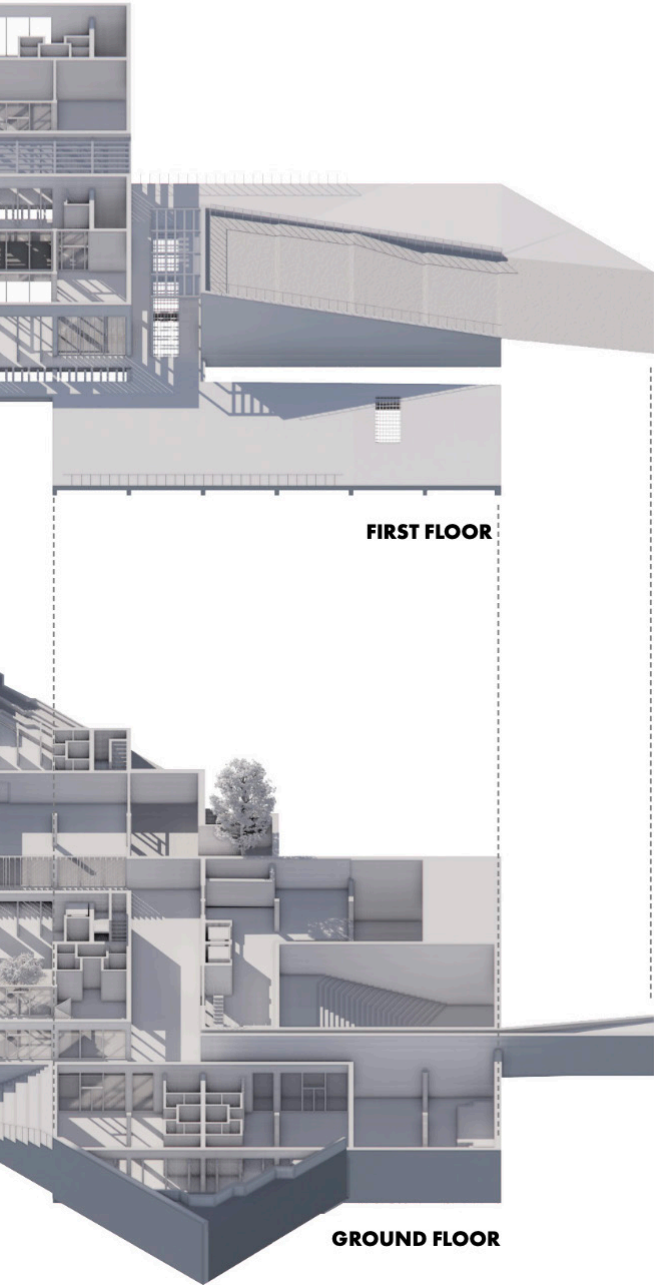


ground floor

## ***5.2 Nature as an architectural element: treshold/filter spaces***

The main idea behind the creation of pavilion-style buildings with access from both the interiors and the in-between spaces is to establish threshold and filter areas that mediate between the interior and exterior realms. Throughout the entire design, the process of entering a space is carefully orchestrated to imbue a sense of progression, almost making occupants feel as though they have seamlessly transitioned into an open environment. The utilization of the natural height difference within the site aids in creating a fluid and organic flow, where people can access spaces effortlessly without the need for excessive architectural interventions, thus allowing the surrounding forest and topography to become architectural elements in their own right. Moreover, the progressive nature of entering the interior from the exterior is further enhanced by the implementation of elements such as rotatable panels nestled between the walls, blurring the boundaries between inside and outside. These panels act as thresholds that evoke a sense of being outdoors even while inside, contributing to the overall design concept. Atriums and courtyards, integrated within the architectural composition, are strategically positioned and topped with skylights to introduce abundant natural light while establishing a stronger connection to the exterior environment. These design choices reinforce the concept of transitional spaces and further strengthen the overarching architectural vision.





**FIRST FLOOR**

**GROUND FLOOR**



museum

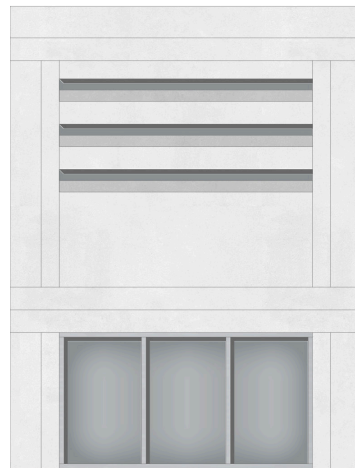
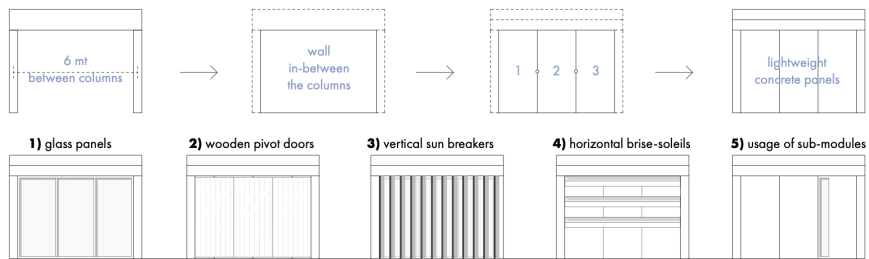


studios

Another key aspect of the project is the inclusion of private, common, and public gardens or open spaces that seamlessly connect to the respective threshold areas, as shown in the partial plans. These carefully designed outdoor areas complement the architecture and serve as transitional spaces between the interior and exterior. Depending on the building's program, these gardens can be either private, shared among specific groups, or open to the public. The afforestation strategy is also integrated, aligning with the main grids of the design and adapting to the needs of each garden area. The strategic placement of vegetation enhances the visual appeal, creates microclimates, and harmonizes with the surrounding built environment. This integration of gardens and afforestation enriches the architectural experience by fostering a sense of tranquility, connection to nature, and a seamless blending of the built and natural elements.

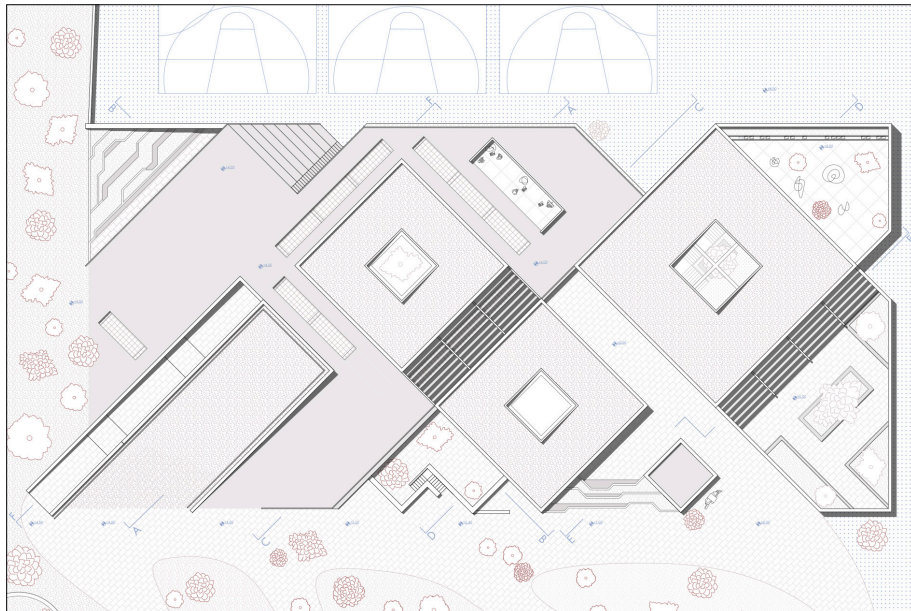


### 5.3 Natural climatic control devices: the facade solutions



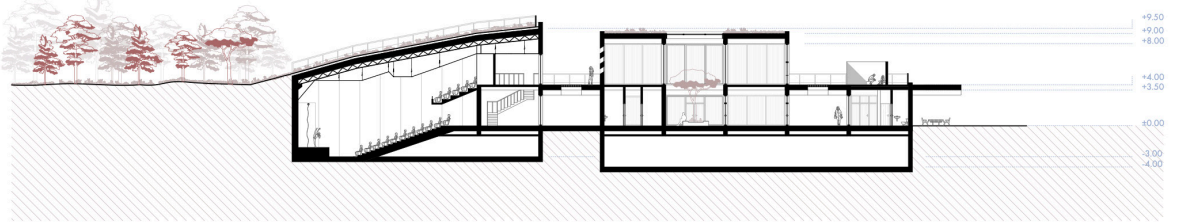
In the proposed design, the architectural elements are carefully integrated to optimize functionality and enhance the spatial experience. The east facades for example; feature rotatable wooden panels, allowing for adaptable light control and privacy that creates a flow between the inside and outside which creates those threshold spaces.. These panels can be adjusted by occupants to modulate daylight and views, promoting a dynamic and interactive environment. On the south facades, vertical brise-soleils are strategically positioned to provide shade and mitigate glare while adding a distinctive architectural character. These brise-soleils, derived from fixed elements such as gaps in the walls, introduce a play of light and shadow, creating a visually captivating façade while controlin the climate in their specific direction of east. Similarly, on the west side, the same principle is applied, but in a vertical manner on the first floor, adding visual interest and privacy to the spaces. The ground floor areas under the green roof incorporate glass elements, connecting interior spaces with the surrounding nature while maximizing natural light infiltration. In contrast, spaces that require controlled lighting, such as the museum, feature strategically placed skylights that filter in desired amounts of natural light, creating an engaging atmosphere for art appreciation. Notably, the sunken auditorium, integrated into the ground level, provides a unique spatial experience, creating an intimate and immersive setting for performances and events.

## 5.4 *The roof as an architectural system: blending into the nature*

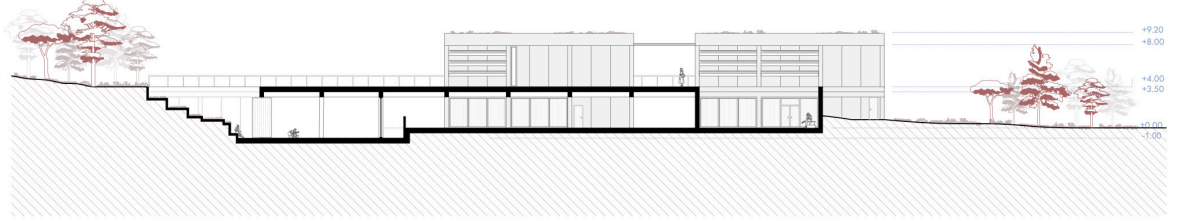


In the proposed design, as can be seen on the roof plan drawing, there is the advocacy for a harmonious blending of an artificial roof that seamlessly integrates with the existing topographical change of 4 meters throughout the site going up from north to south. By utilizing the natural topography, creating sunken spaces within the ground that house programs not reliant on natural light or requiring sound-proofing was envisioned, such as auditoriums and music/dance rooms. These excavated areas effectively utilize the earth as a natural insulator, providing an acoustic barrier and minimizing the need for artificial lighting. Additionally, incorporating a green roof in a specific section, providing an additional space exclusive to students within the educational buildings is proposed by ending the green roof at a certain point. This green roof not only contributes to the aesthetic appeal of the design but also offers a serene and natural environment for students to relax and engage with nature. Additionally, to this green roof proposed that comes naturally from the ground on the upper part is treated as the fifth façade by having different voids/permeable/semi-permeable spaces on its own ground for the areas and corridors on the lower level to have enough light and air inside. Furthermore, creating an inclined green roof on top of the auditorium consequenced creating a socializing area where student can use as a ground and admire the landscape of the forest that this view looks at directly.

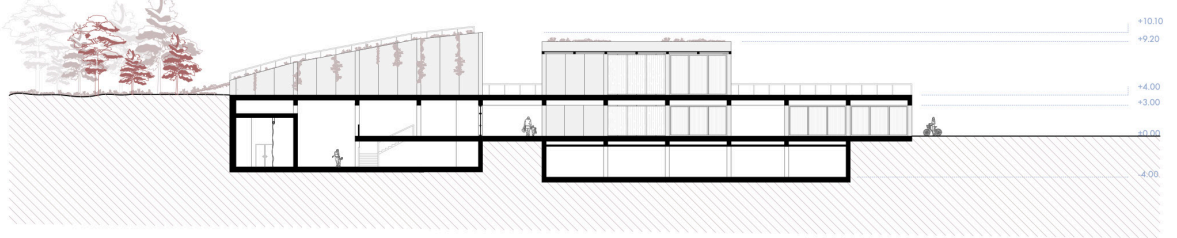
SECTION AA' 1/200

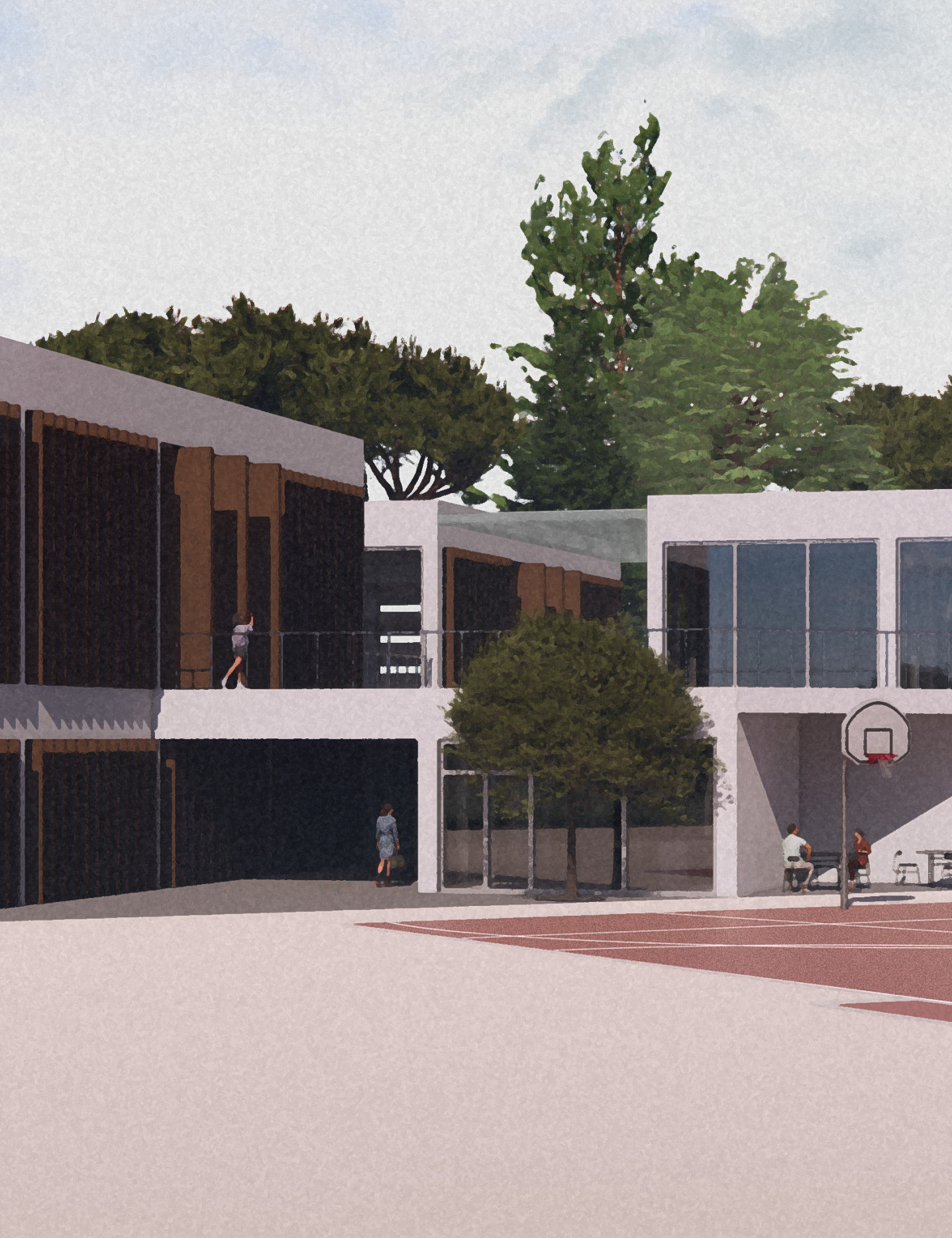


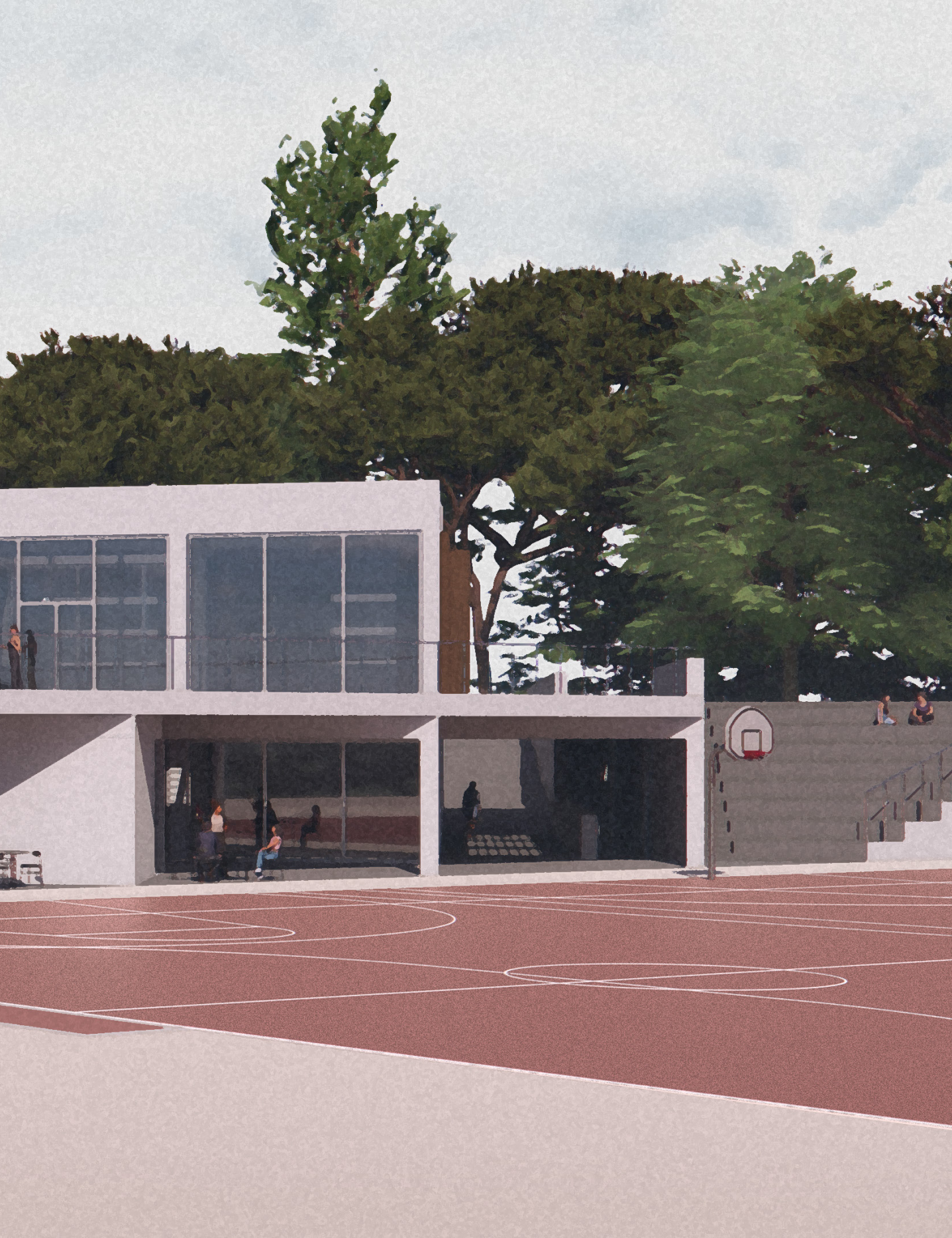
SECTION BB' 1/200



SECTION CC' 1/200







***(VI) Project Boards***

The final material prepared to present the architectural proposal for D. Daskolopoulos Arts Building





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