L'irrigation du territoire

Chandigarh and the Modern Vision of the Landscape

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Abstract: This paper discusses the role of landscape as a unifying element in the project for the city of Chandigarh. During the twentieth century the "classical" idea of landscape as a visual background prevailed over the idea of landscape as a device able to binding space into infinity. The plan for the city of Chandigarth and its main sites (monuments and buildings), as the Capitol hill, are conceived as symbolic constructions in which nature comes into contact with the artificial space of the city and its institutions. This interpretation derives from the following considerations:
- The evolution of the plan for Chandigarh, from the early schemes by Albert Mayer to the plan by Le Corbusier. This radically changed the role of the void-system into the urban space structure.
- The importance attributed by Le Corbusier to the Plan d'arborisation supported by the design work of a committee that cared about the planting of the trees.
- The meaning of the Capitol soil (natural and artificial) and the overall narrative based on a complex metamorphosis of symbols recomposing fragments of nature and city.

1950

The idea of building the new capital of the state of Punjab arises within a situation of strong contrasts and political confusion with the end of the English colonial period in 1947. Following the separation between Pakistan and India, Eastern Punjab lost its capital, Lahore, and no other cities present in the territory seemed suitable for the role of capital. For the Indian Prime Minister, Pandit Jawaharlal Nehru, it was necessary to identify «a city, symbol of India's freedom, without the restrictions of past traditions, [...] an expression of the nation's confidence in the future».[2] The site for the construction of the new capital was chosen about 400 km from New Dehli, on the slopes of the Himalayas, and the first study on the development of the area were carried out by Pran Nath Thapar, who in 1949 was appointed head of economic and administrative services of the Capital Project, and by P.L. Varma, an engineer from Punjab specifically called on by the

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2. J. Nehru, in Kalia 1999, p. 21.

United States. The two, according to Nehru thinking, had to be assited in their work by Western planners, experts in Urban Planning, not only planning consultants, but also true masters in the training of modern Indian architects. In fact, even if on other occasions Nehru himself had expressed some doubts about consulting foreign architects,[3] while true that throughout the entire colonial period nothing had been done to favor the development of an Indian political and professional class through an exchange with the original cultures, however many intellectuals were formed in England and the United States. After much discussion and uncertainty, in January 1950, the drafting of the plan was entrusted to a group coordinated by the American architect Albert Mayer, ending any possibility of going back on times, places and methods. The group worked hard and within a few months, in June, had already presented a first project. But on August 31 of the same year, Matthew Nowicki, a young Polish-born architect who had greatly contributed to the drafting of the first hypotheses, died as a result of a plane crash. The incident was the opportunity to quickly end relations with Mayer, who, unlike Nowicky, never really thrilled his clients, and to turn to a new group of designers: Le Corbusier, Pierre Janneret, Maxwel Fry and Jane Drew. The deadline was tight and in the intentions of the Indian authorities it had to be limited to enable execution of Mayer's plan. But to think that Le Corbusier would only follow other's thoughts was obviously naive: «We will correct the plan after our trip to India ... We must start from scratch [...] India has a thousand-year-old culture! There are the Hindu temples, carved stone, and the red-stone Muslim temples. But India has not yet created an architecture of modern civilization».[4] An approach which definitely convinced Nehru who saw in him the architect capable of laying the foundations for the birth of an *Indian* aesthetic for the second half of the twentieth century.

Inverse Argument

The new plan was ready in no time, and this was certainly made possible thanks to previous studies and projects. However, despite some

3. "I wonder, however, if you have analyzed the possibility that the plan of the city is to be in India (...) there is a certain tendency for us Indians to turn to England or the United States for advice (...). However, it is not said that British or American designers have any idea of our roots and our problems. Perhaps one of these designers would create a city that would be great in one of the western countries, but not in India". J. Nehru, quoted in Kalia 1999, p. 26.

4. Le Corbusier, in Kalia 1999, p. 87.

similarities, the differences between the Mayer and Nowicky project,[5] and that of Le Corbusier, Jeanneret, Drew and Fry are substantial. The main changes concern the orientation and the hierarchization of the road jersey according to the principles of the separation of the traffic often espaused by Le Corbusier and stated by the 7V concept, already stated during the CIAM of 1949, and applied to the plan developed for Bogotà. The new jersey gives rise to the urban sectors, or Sector, with 800x1200 meter dimensions, replacing the neighborhood units, the Superblocks, as designed by Mayer. By observing the first official drawing of the city (1951), it is immediately evident that Le Corbusier does not include any data on the composition of the sector or details on architectural types, basically exhibiting the infrastructure and open spaces. He deals with the theme using an *inverse argument*,[6] a system of contrasted parts which also transforms the relationship between figure and background in the rapport between the architectural object and the typical landscape of the modern.[7] In the various drawings, no explanatory or in-depth plan is presented, nor, unlike Mayer's plans and Nowicki's drawings, do any detailed indication exist of the distribution of the residences in the sectors nor the architectural character of the individual buildings. The element of greatest interest to understand the functioning of residential fabric are the green zones, the corridors that hold different sectors together. Also, in the 1951 presentation drawing, the only important roads seem to be the V4, the commercial neighborhood streets. The green zones and V4 actually build a system of voids, orthogonal to each

5. Albert Mayer's role and of the group he co-ordinated has been the subject of important insights that have called into question the reductive interpretation of previous studies. In this regard, see Lonero 2005 pp. 211-226. The role of M. Nowicky and the relationship between plan and architecture, order and diversity that gives the architectural language of buildings a central role for urban development are clarified. In a letter to Albert Mayer Nowicky states: "(…) we admire the plans of beautiful cities especially for the clarity of the concepts. In designing a city that will grow in the future, I think we should continually pay attention to the fashions and tastes of the present that may not correspond to those of the future. (...) I think it might be a mistake to try to create a perfect city by introducing an idea of diversity that perfect cities have, as we know them. A project is always configured as a modular diagram able to express a philosophy and the principles of life applied to specific conditions. (...) the main objective must be order and not diversity". Letter from M. Nowicki to A. Mayer in Evenson 1966, pp 14-15.

6. *Inverse Argument* is an expression used by R. Koolhaas in the description of the OMA methodology in the elaboration of the plan for Melun Sénart in 1987.

7. Balkrishna Doshi, who worked extensively with Le Corbusier, said: "I do not believe that we need to demolish the myth that Le Corbusier's plan was rigid. Le Corbusier didn't want it to be that way. He was a systems designer. Le Corbusier's plan devised a flexible structure ". The affirmation of B.V. Doshi is reported in a report on a day of studies on Chandigarh which was attended by some of the most important contemporary Indian scholars and architects. Parts of the discussions are listed in: *Chandigarh in India*, in Indian Architect and Builder. January 1999, pp. 77-98.

other: the green zones parallel each other and the large Nature Park of the Leisure Valley, are oriented from north east to south, towards the Himalayas. The V4s are described by Le Corbusier in the Statute of Land: «The V4 will be the road that will give character to every sector. In consequence, every V4 will be different from the others and will have specific characteristics, since it is important to create great variety throughout the city and provide the inhabitants with elements that make the spaces classifiable. We have every opportunity to give each V4 a personality that identifies it within the entire urban body and that links the five or six sectors which each crosses. In order to accentuate the character, in each V4 trees will be planted of different coloring and species. For example, one V4 will be yellow, one red, another, blue».[8]

Plan d'arborisation

«With urban planning and architecture, the environment and the landscape can enter the city or constitute a decisive figurative and spiritual element within the city».[9] In Chandigarh, the landscape is the structuring element of the plane, the element of continuity between the parts. It is not the sectors nor the road grid, which is not dense enough and however always underlined by a very studied system of trees giving the roads the appearance of "parkways"».[10] Le Corbusier assumes, through the landscape, as a given, in the city, the impossibility of complete control over the parts built over time. He does not devote himself therefore to the design of urban fabrics and homes,[11] but rather to the definition of a strategy that identifies a set of relations between plenums and voids. In the indications that accompany the drawings of the plan, the rules for checking the quality of the places are dictated by defining the relationships that the buildings must establish with the different types of space created in the city, between plenum and void, between road and trees, between ground and buildings.
The fundamental meaning of the plan of Chandigarh, the real difference introduced by Le Corbusier, which anticipates many of the themes

8. Le Corbusier 1959.

9. Le Corbusier 1972, p. 80.

10. On the history of the Plan d'Arborisation I have to thank Franco Panzini in particular for the many exchanges over time and for the lessons at the "Open" Master of the University of Roma Tre, where he recounted the role of the landscape in the development of the Chandigarh plan in detail and with unparalleled passion.

11. The only housing project drawn up by Le Corbusier concerns housing in a single environment: the house of the peon, the living space reduced to its essentiality, the archetype of the house.

of contemporary design, is contained in this idea of landscape as an infrastructure, the element of *intermediate scale* that defines the spatiality of places without determining the form.[12] The quality of the city space does not stem from the plan of its architecture, but from the definition of the voids that become the significant grid of the city. This attention is also evidenced by the care with which Le Corbusier himself dedicated to the drawings for the "Plan d'arborisation" of the city, he indicates a set of diagrams in which the formal and chromatic characteristics that the different plants should adhere to in the definition of the different types of spaces to be built: paths, driveways of varying importance, and squares. «Chandigarh sera la ville d'arbres, de fleurs et d'eau, de maisons aussi simples que celles du temps d'Homere et de quelques splendides édifices du plus haut modernisme où régnera la regle mathématique».[13] In a letter to Jane Drew Le Corbusier specifies that his indications have a specific architectural basis since he is neither an "arborist", nor a gardener and above all he is not Indian, so he does not want to intervene in the choice of tree species[14] but is interested in defining its density, height, color, and the relationship that must be established between architecture and empty spaces. The plan was then developed and defined, in various meetings between 1953 and 1954 with a specific committee strongly desired by Le Corbusier: the "landscape advisory committee", included M.S. Randhawa, an important Indian botanist who collaborated with Nehru and Gandhi. Rhandawa then directed the works and the realization of the Plan d'Arborisation dedicating maniacal attention to respecting the choices, so much so, that the same has remained binding for more than 50 years.

Land

The landscape is not limited to the definition of the system within the body of the city, it also establishes general relations of context and links the microscale with the infinity of space and the force of the

12. "Intermediate scale" means the one of projects that, independently of dimensional issues, have the ambition to define and characterize the architecture of the open space starting from founded and deep bonds with the territorial matrices of the landscape. This design approach is based on the recognition and / or triggering of reticular relations between spatial, temporal, environmental and social coordinates, linking places, facts and actions of Italian landscapes often only apparently and superficially separated. In this sense, the term *intermediate scale* refers not so much to the extension of the project areas, as to meaning and value relationships; does not pose a problem of dimensional extension, since on the contrary it is applicable to all scales: from the courtyard, to the city, to the region ". In Ghio, Metta, Montuori 2011, pp 401-407.

13. Le Corbusier Lettre à sa mère, 26 February 1956, in Papillault 2016.

14. The letter, dated August 1, 1952, published in Papillault 2011, p. 139.

meteorological elements, it is contrasted with *geographical space.*[15] The Capitol is the extreme boundary in the system of artificial space, nothing can be built beyond it, beyond the Open Hand, here finite and infinite come into contact in a site that simultaneously separates and unites: the city on one side and the Himalayas on the other. Through the Capitol the landscape enters the city, «it is a stage where man, architecture and nature meet as active partners. [...] An environment where nature is invited to penetrate [...] while forced to respond to the power of the architectural form to conform nature. In the midst of this orchestrated interaction between architecture and nature, Le Corbusier uses the observer as an active participant so that he or she can develop a strong awareness of the experience of living».[16] In Capitol Hill there is the search for a space that is able to unveil the essence of the relationships which are established between nature and architecture and at the same time between it and the archetypal elements of Indian culture and history projected towards the future. Crossing through the space between buildings, nature artificialized, giving rise to a new expressive form, and in this process it distills its elements through the voids, between objects and symbols, transforming itself into the unifying figurative element of the urban system. With this tension the buildings contrast each other on the great central space of the Capitol. In this space in which distances are lost, the landscape reveals itself as the unifying element of the different parts of the city. The landscape is the datum, too often ignored or considered only as a visual background, nature, unattainable and sacred, to be observed from afar, allowing the city itself to confront itself with infinite space. In this place the Tower of Shadows, the only building rotated with respect to the grid system that regulates the entire Capitol, offering itself as the sole referent of the sun, its silent image changes throughout the day in a continuous

15. In the editorial that introduces the issue of Casabella 597-598, *Il disegno degli spazi aperti*, Gregotti no longer defines the open space no longer as what opposes architecture to the landscape but as the place that conceives the geographical context as a succession of large interiors of which the construction, city or single architecture are elements of its own constitution. In the same article he identifies Chandigarh as one of the projects of the modern tradition that has established new design topics on this theme: "Strategies in the definition of the enormous space of Chandigarh in which geography itself becomes an essential element of the city and the design of its monumental parts propose an idea of the design of the open space that, beyond any easy parallel with the new conceptions of the post Euclidean hierarchies and of modern physics, offer an interpretative domain allowing great developments that could invest the very issues of urban dispersion". Gregotti 1993. pp 2-4.

16. The quote refers to villa Shodan but expresses Le Corbusier's way of viewing nature in India. Serenyi 1986. pp. 176-177.

alternatiing of lights and shadows ideally connecting the space to the eternal flow of time; the Artificial Hill, made up of two parallel walls that contain the earth, seems to symbolize the direction through which nature passes through the site; the monument of the Martyrs, invites the viewer along the its ramp, forcing a continuous change of the point of view that alters the distance among the objects that from time to time disappear from view and then reappear in a surrealist effect. All these elements are called upon to contrast with the infinity of the open space, the landscape, the force of the natural elements, with respect to which they assume the significance of symbols. One can say that they have the task of translating the site so as to make it visible and tangible: light, rain, wind, and earth, become part of a compositional system that wants to reconcile eternity and contingency. «The astronomical instruments of Delhi, they point the way to unite men to the cosmos, the exact adaptation of forms and organisms to the sun, the rains, and the air».[17]

Thus thanks to these elements, too often considered secondary, that the new pact is established with nature, which defines a new geography, and realizes that metaphor of the landscape in which the lag between eternal time and the time of men is synchronized, between sacred and quotidian, and unites the distances between the landscape and the space of the city.

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17. From a note by Le Corbusier in his *Carnets*, 1951.

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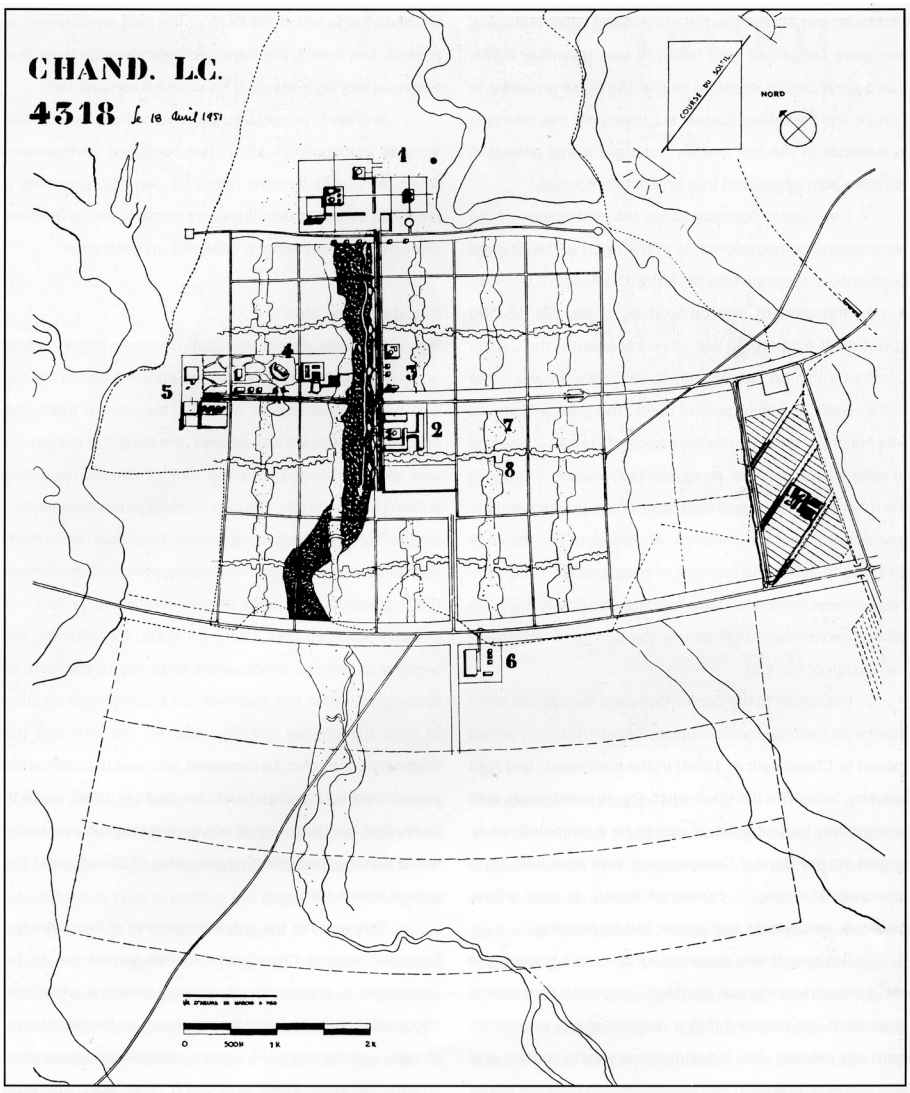
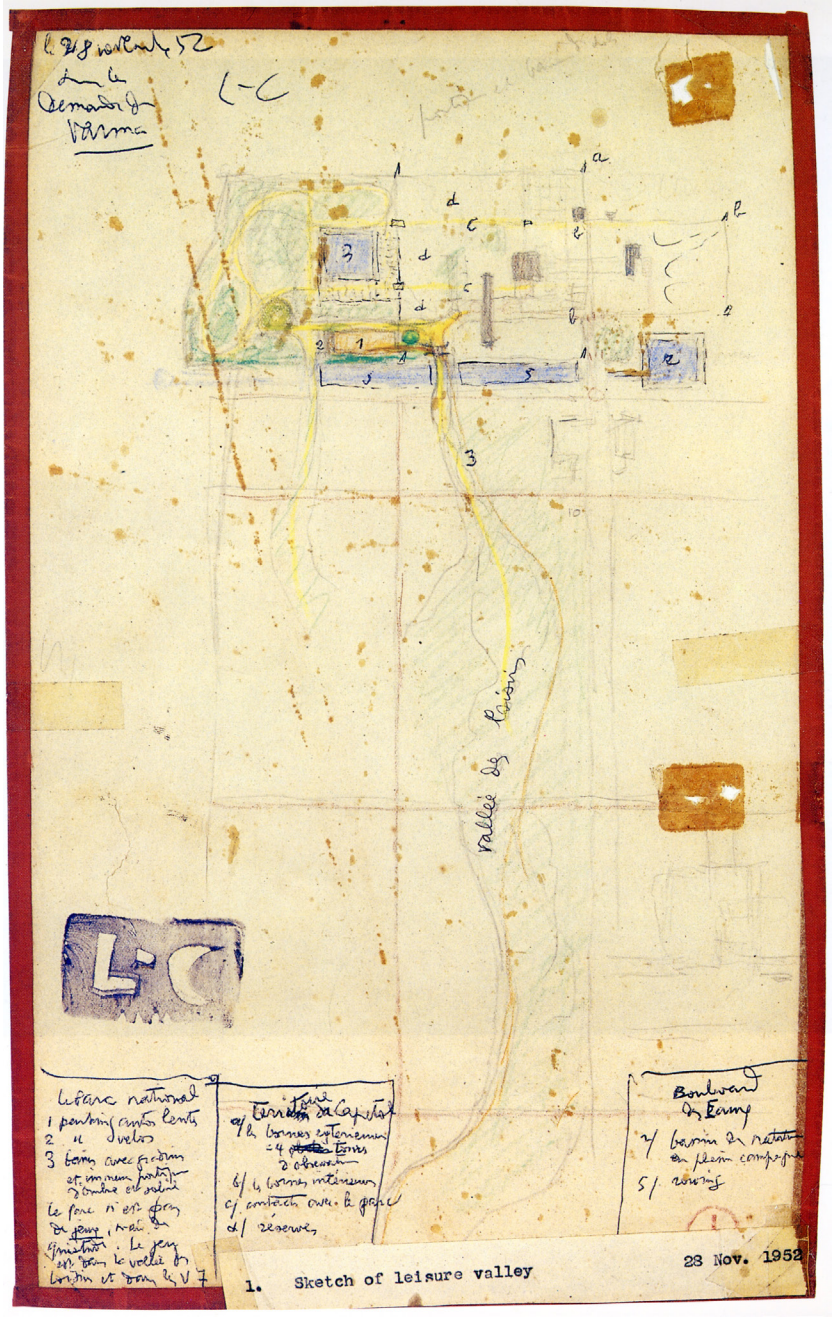
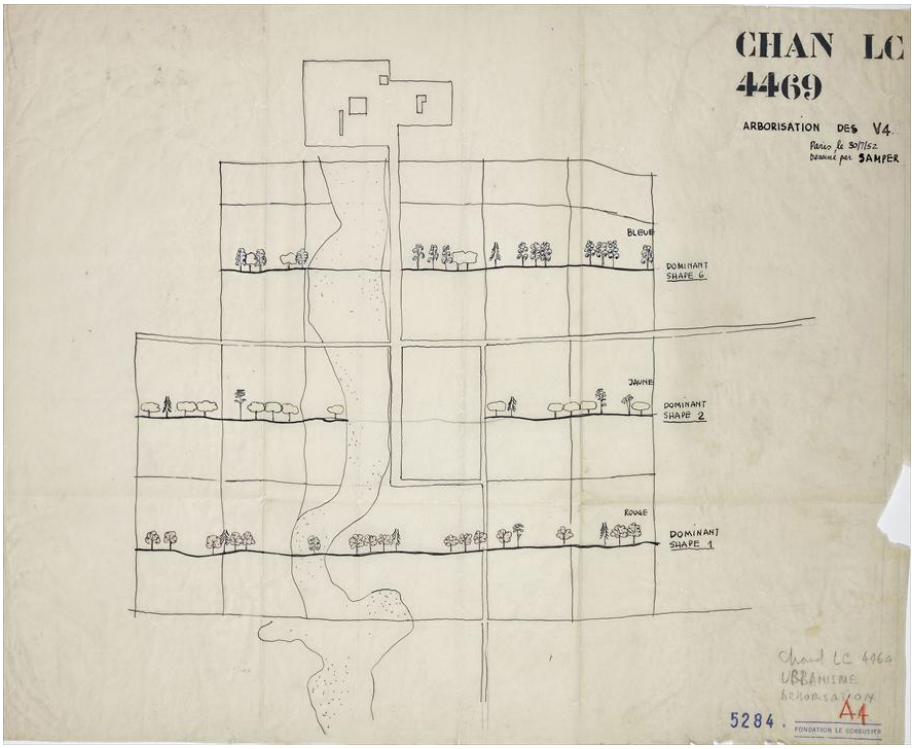


The plan of presentation of the plan with a date placed by hand (April 18th, 1951). The planimetry shows the public and monumental complexes, the streets and the 7V system that coincide with the plan then realized. In particular, the system of roads and green paths has been respected as a negative datum of the built parts.

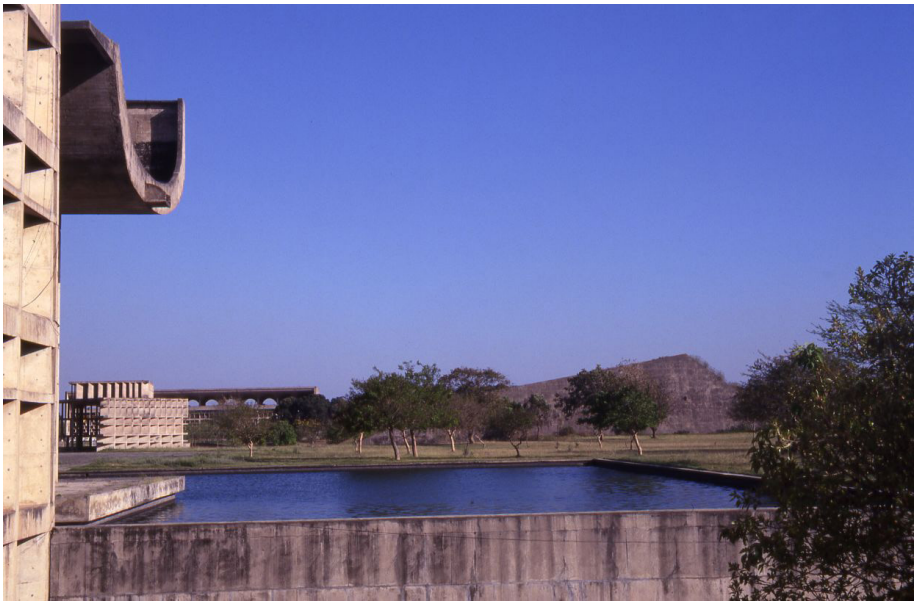


The Leisure Valley, a natural system that determines the orientation of the urban system. Nature flows through the Capitol which becomes the place where the infinite time of nature and the finite time of men synchronize. Different temporalities that come in tune.



A scheme of the Plan d'Arborisation. The Plan indicates the formal characteristics of the trees to be used, describing the space between buildings and trees.

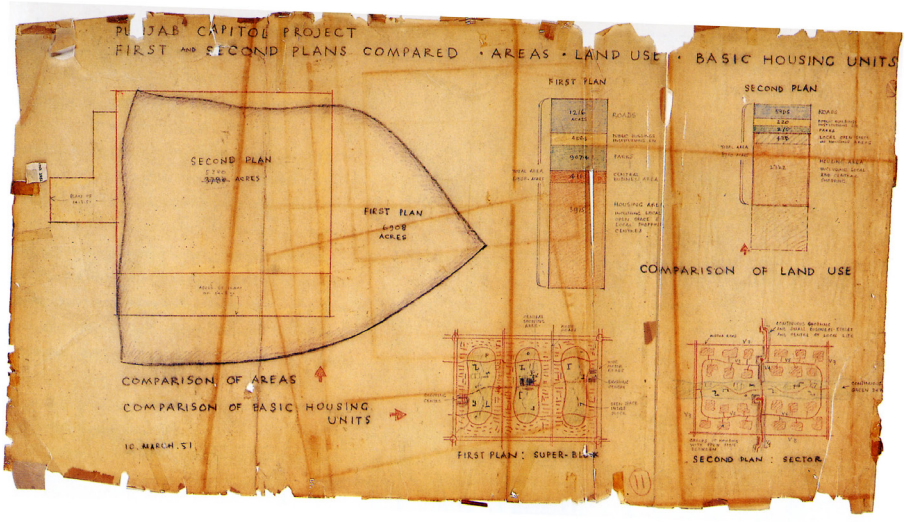
Crossings of different systems, pedestrian spaces and driveways remain independent. In recent years there has been talk of the possibility of using most of the free land to encourage new buildings and densifications of the original plan.



The Capitol seen from the Assembly building, a modeled land, a complex soil rich in architectural and natural elements. The complex can not be read as a set of monumental buildings isolated in a void but as a complex system of elements that are confronted with the mediation of the land, the light and the whole of the natural elements on this void.

The tower of the shadows and the artificial hill, formalization of the relationship with nature. The system of constructed elements changes during the day with the changing of light and reacting to the point of view of the observer. They are not abstract symbols but they are part of a narrative system that makes nature part of the project.

The artificial hill, an element that defines different possible perceptions of the Capitol space. The two side septums that contain the land and draw the skyline are oriented following the direction of nature that penetrates into the city.



A drawing by Albert Mayer that compares the two floors for the city highlighting the differences between settlement choices, land use and building density.