

Doctoral Research

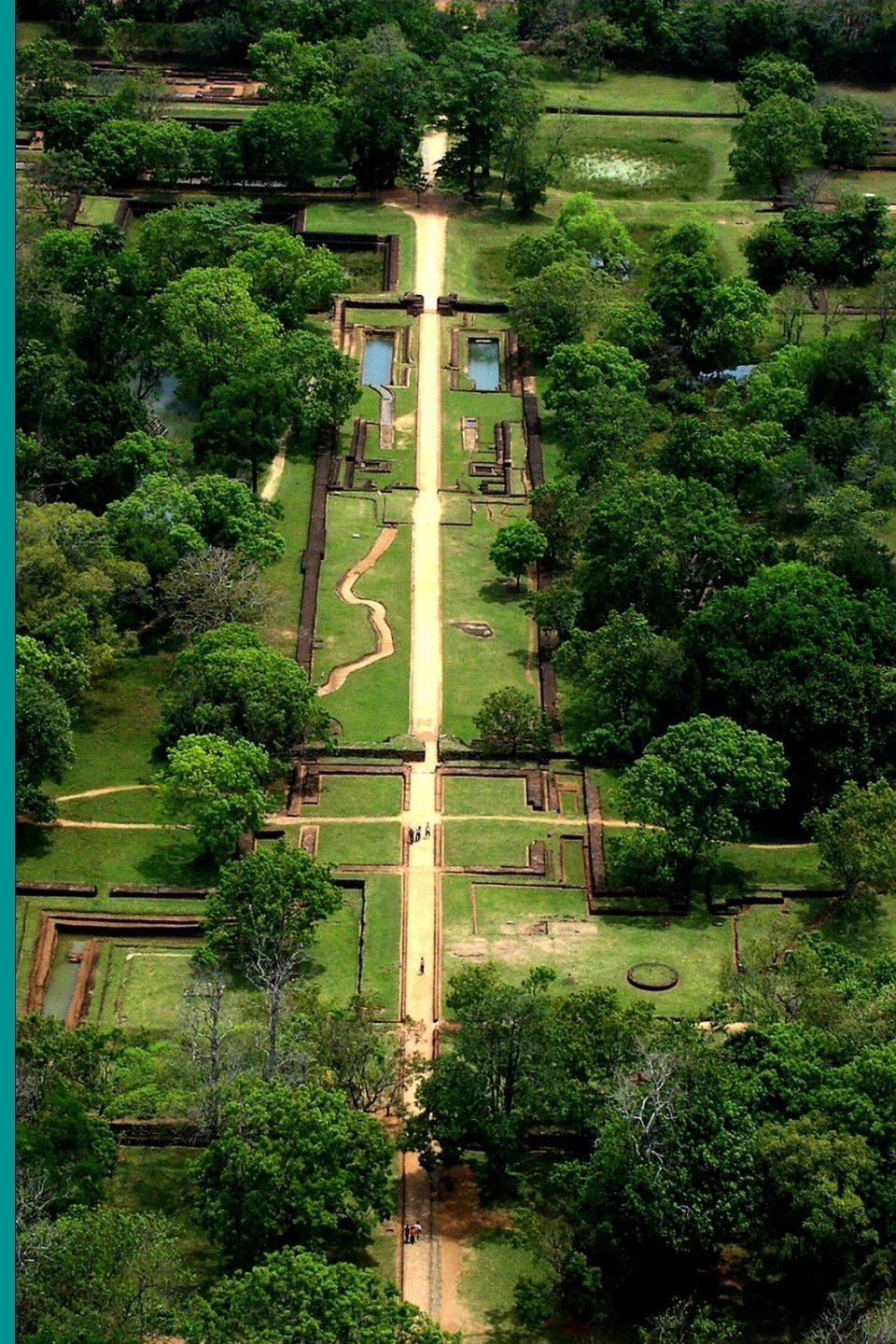


The Sigiriya Royal Gardens:
Analysis of the Landscape Architectonic Composition

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Sigiriya : 5th century AC royal complex in Sri Lanka











Sigiriya: research so far..... and gaps in research

- More than a century years of research on various aspects of Sigiriya
- Studies were largely to view material remains in historical, sociological, socio-historical and semiological perspectives
- Hardly any serious attempt to view material remains from a technical-analytical approach to understand the compositional aspects of its designs
- No serious or in-depth studies have been carried out so far to answer the following:
 - did Sri Lanka possesses a distinctive landscape tradition of its own?
 - are the historical examples including Sigiriya an outcome of this tradition?

Main objective

to read Sigiriya as a landscape architectonic design with special emphasis on

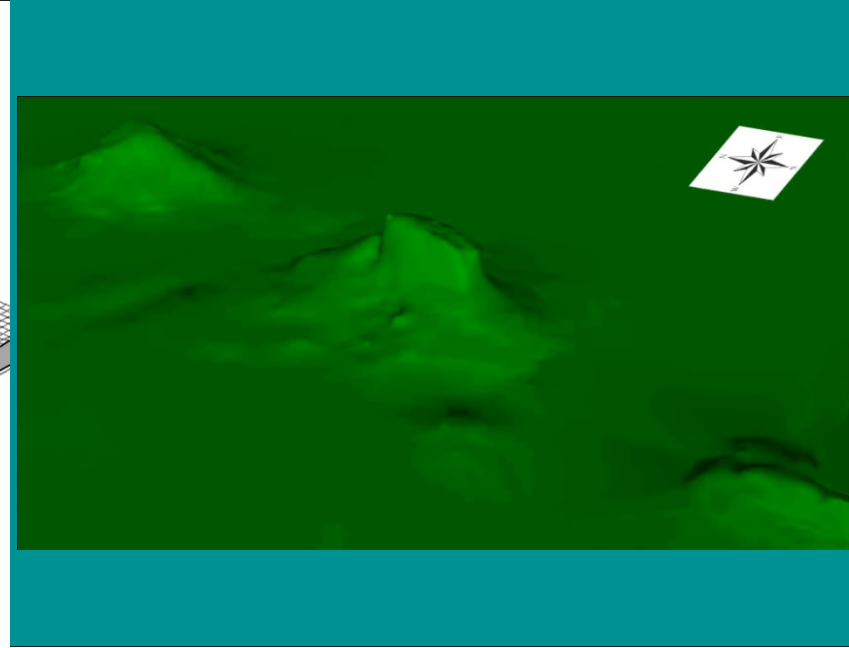
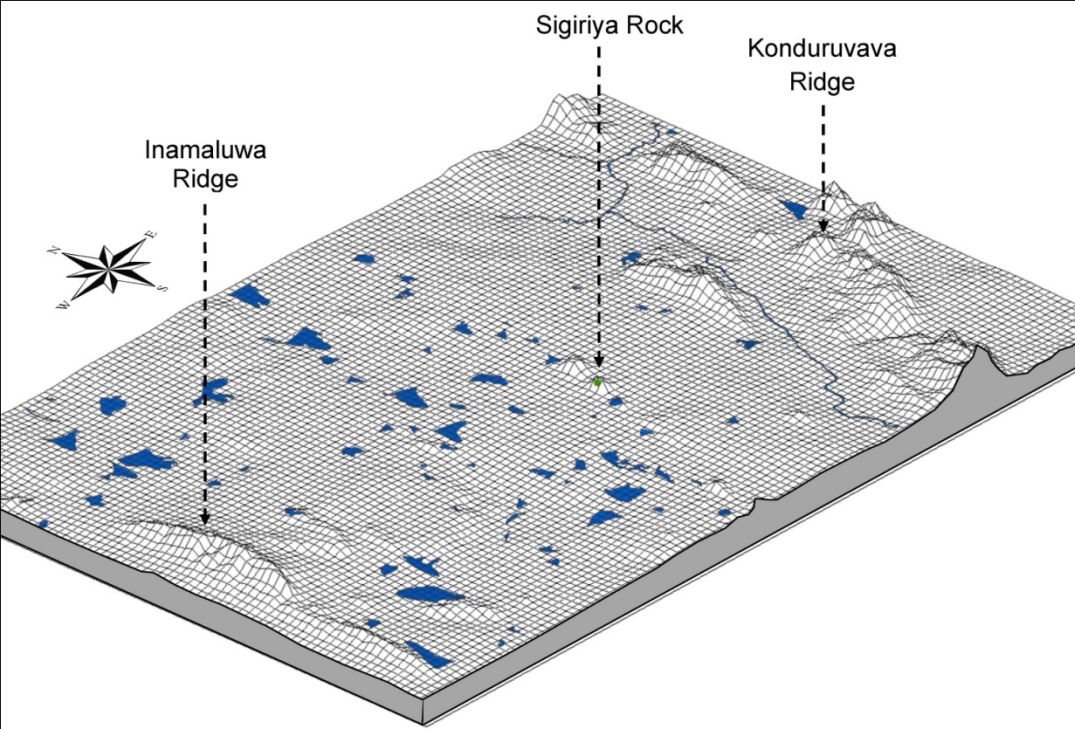
the architectonic means (design tools, principles / rules, techniques etc.)

employed by the designers to arrange / organize the elements in the composition and

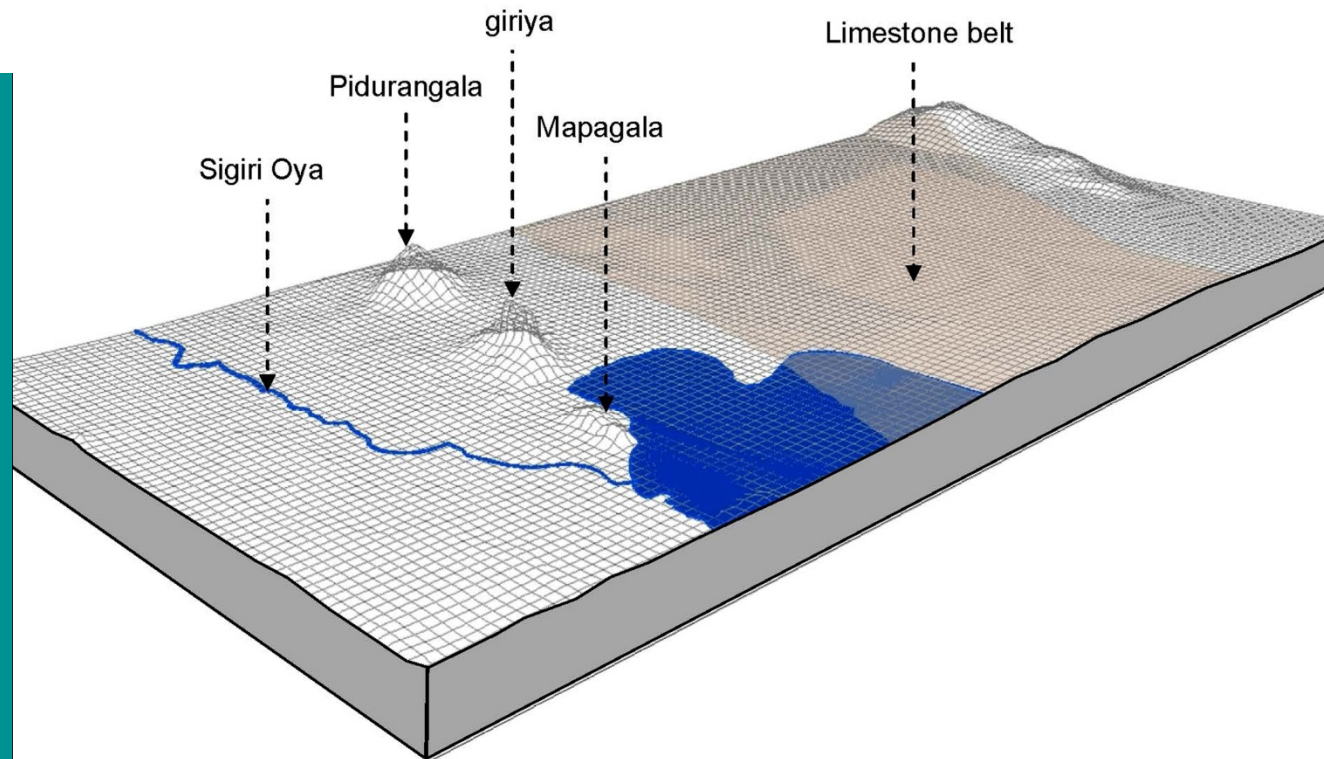
thereby to understand its design characteristics

Approach and Methodology

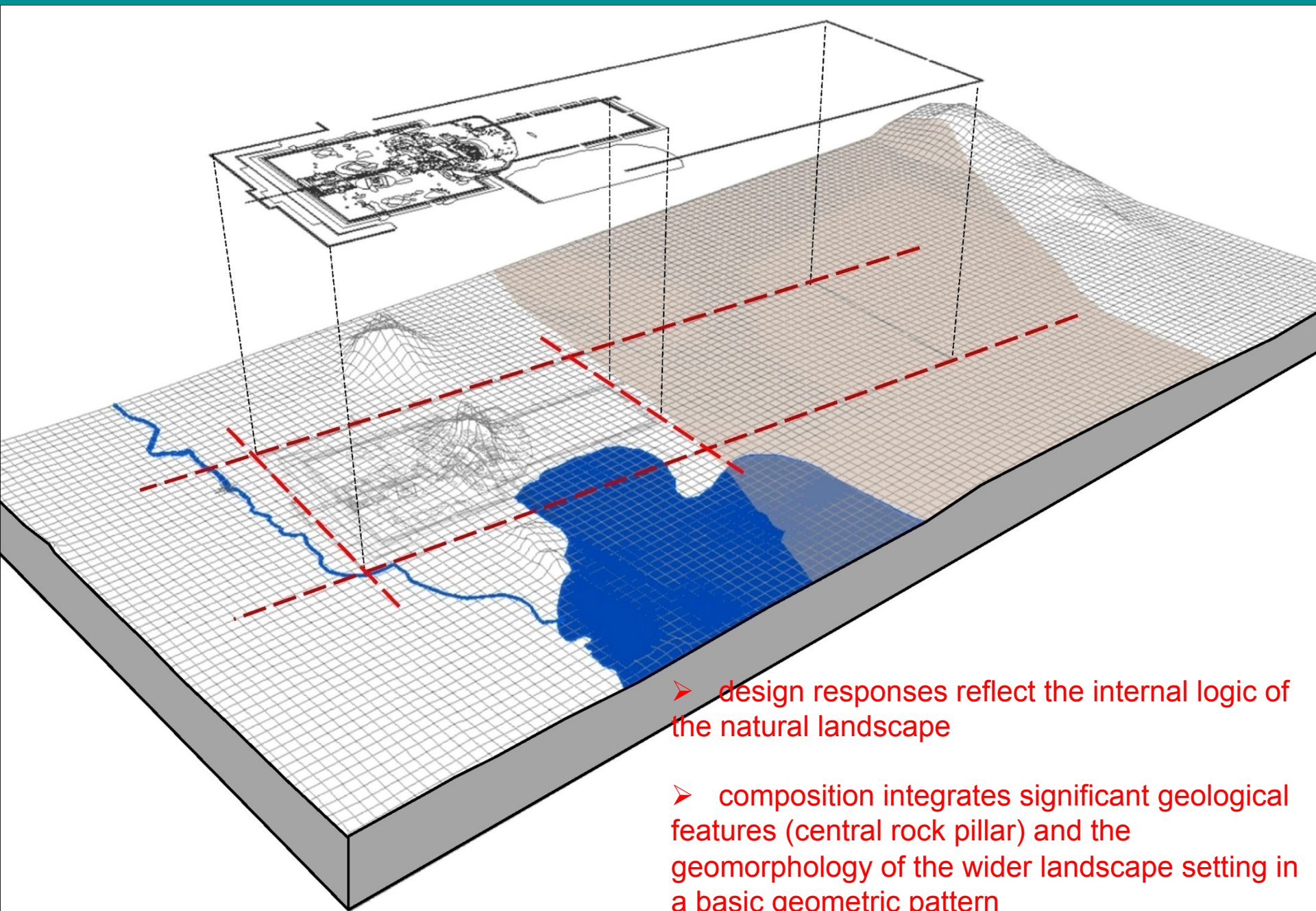
- a technical-analytical point of view
- follows a methodological framework developed at the Landscape Design Department of the Faculty of Architecture at TU Delft where landscape architectonic design is conceptually anatomized into :
 - Basic Form
 - Spatial Form
 - Metaphorical Form
 - Programmatic Form



Basic Form

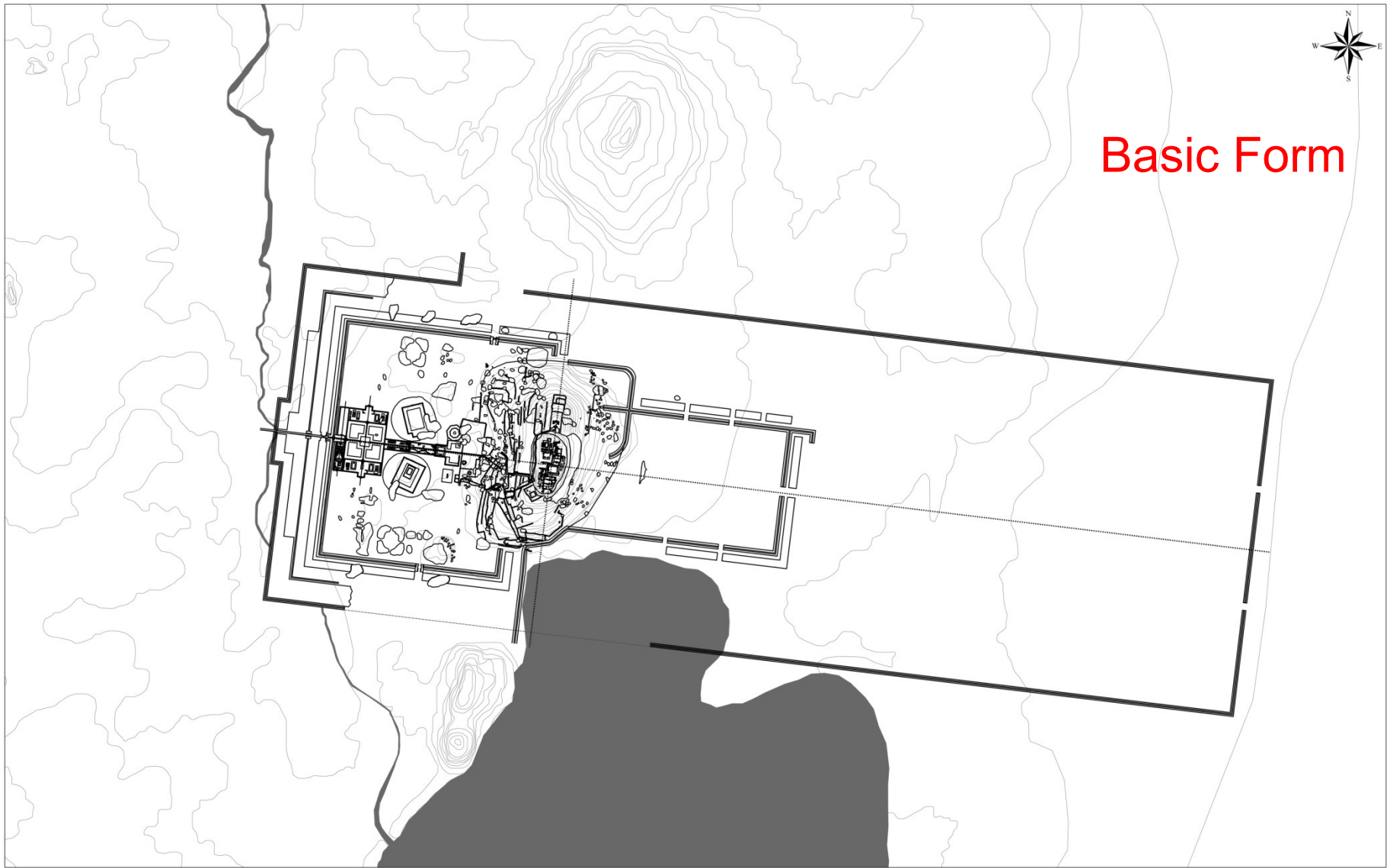


Basic Form

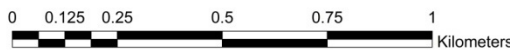


- design responses reflect the internal logic of the natural landscape
- composition integrates significant geological features (central rock pillar) and the geomorphology of the wider landscape setting in a basic geometric pattern

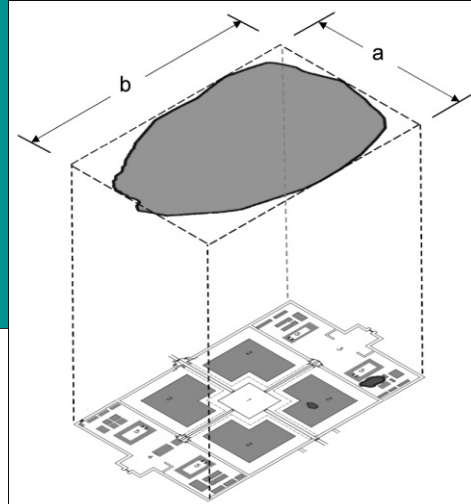
➤ Basic plan is anchored in the (natural) topography by a careful geometrization of local natural features



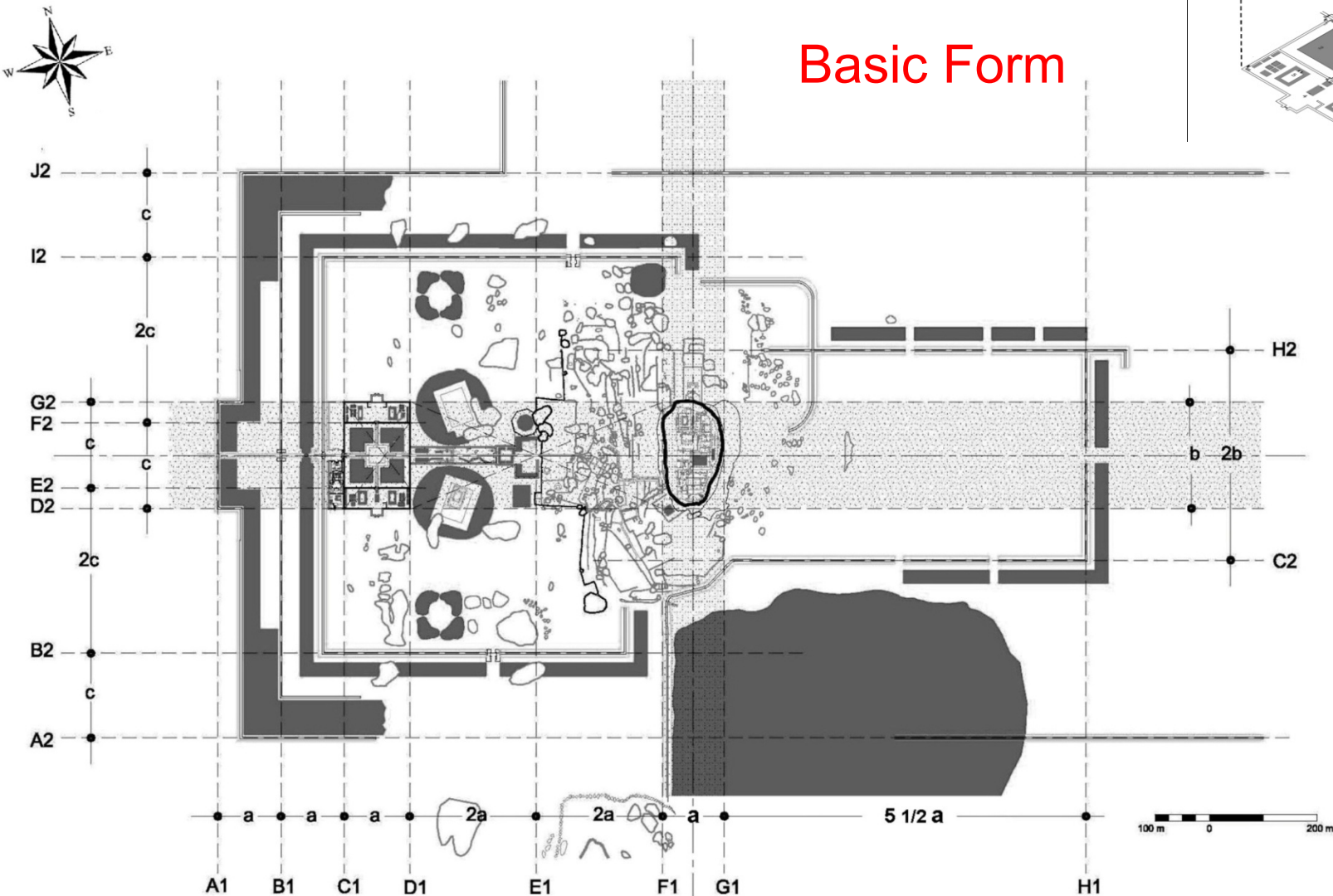
Basic Form



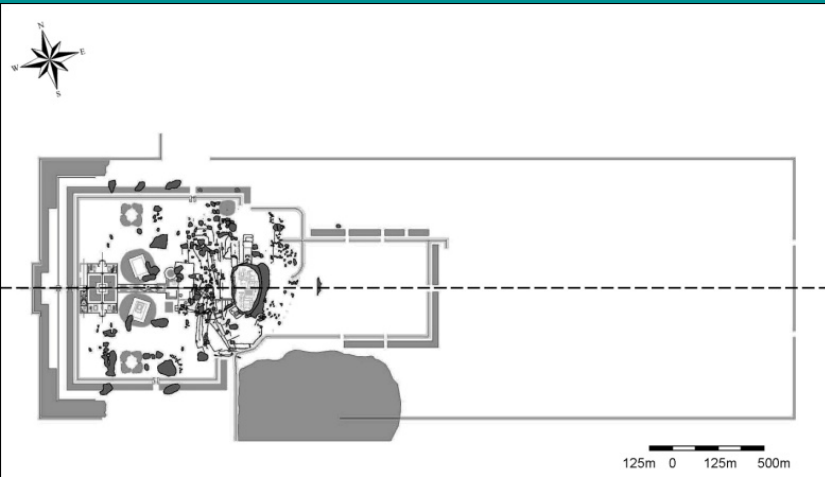
➤ **Geometric grid**: an instrument / tool where grid module is based on the abstracted and geometrized plan configuration of the natural 'cap – rock' : imposing order by the rock (king) upon the landscape (rest of the social strata)



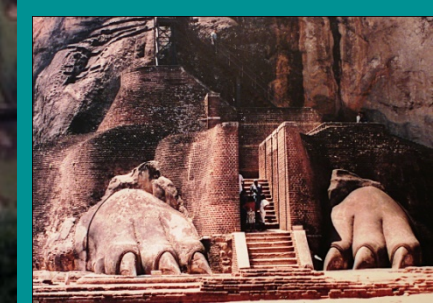
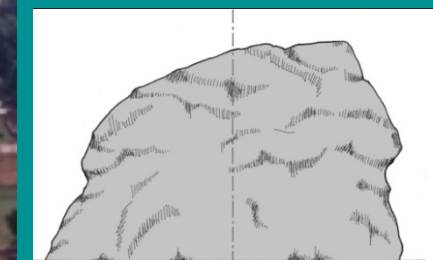
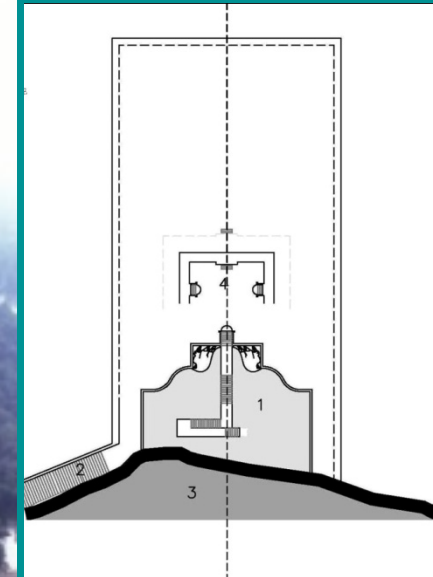
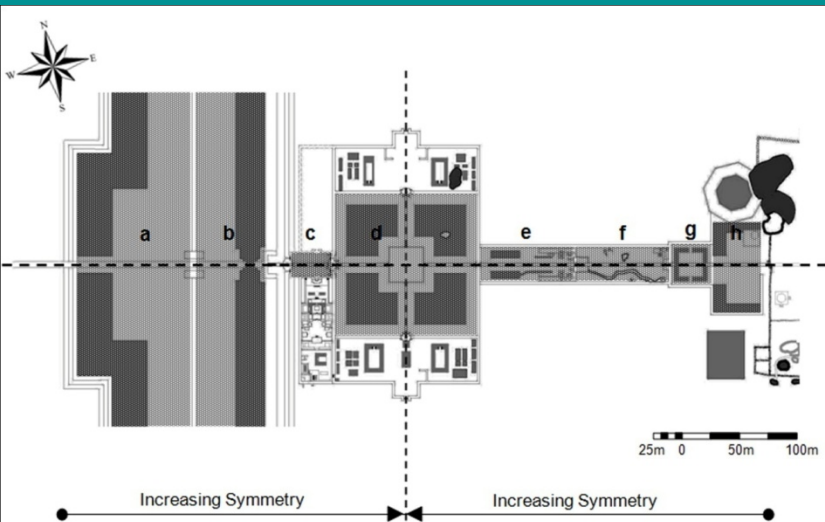
Basic Form



Basic Form

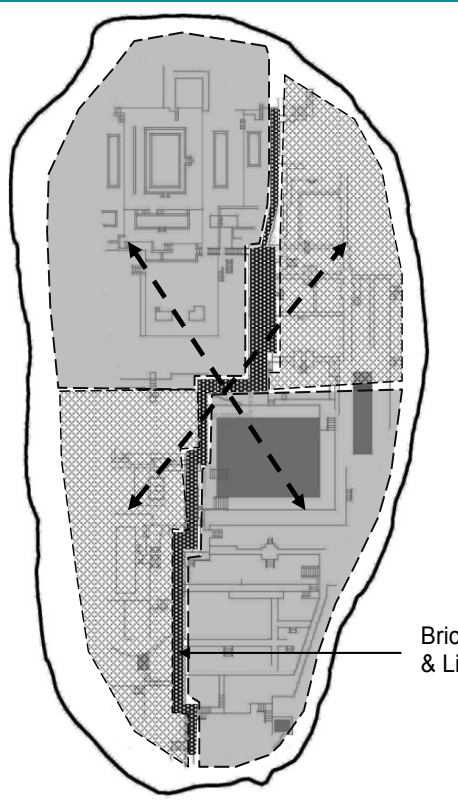


➤ Symmetry

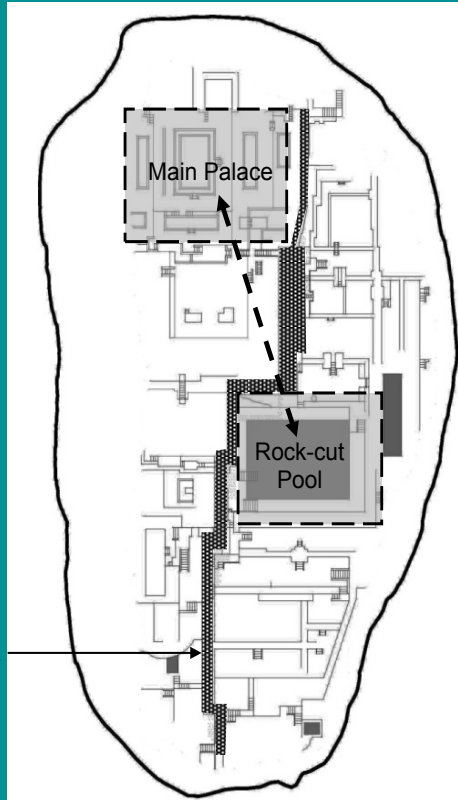


Basic Form

➤ Asymmetry and Asymmetrical balance



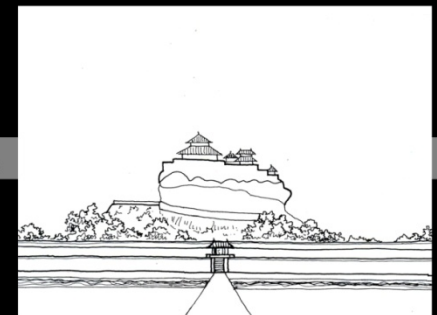
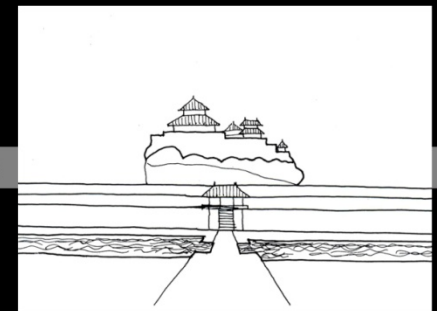
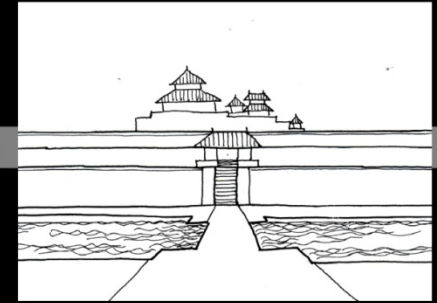
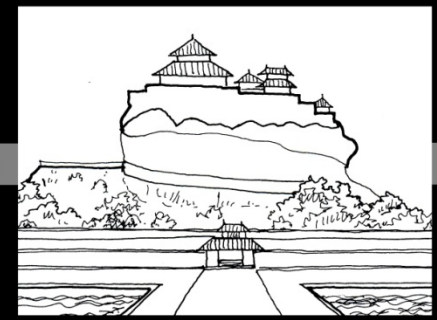
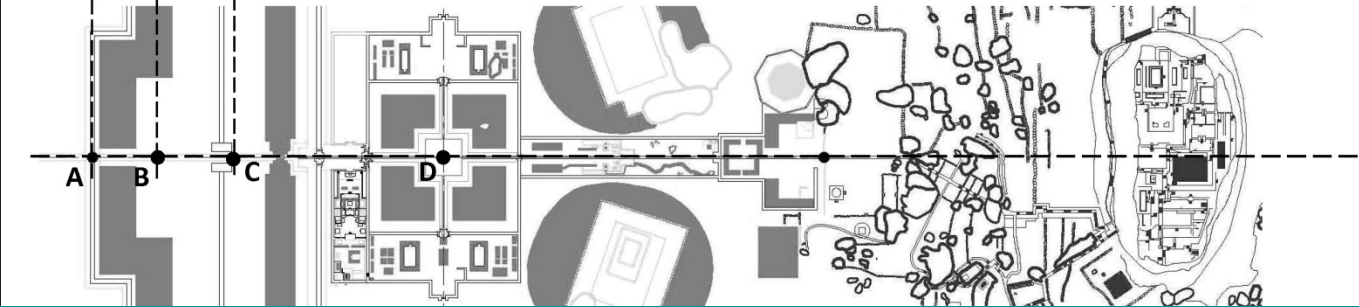
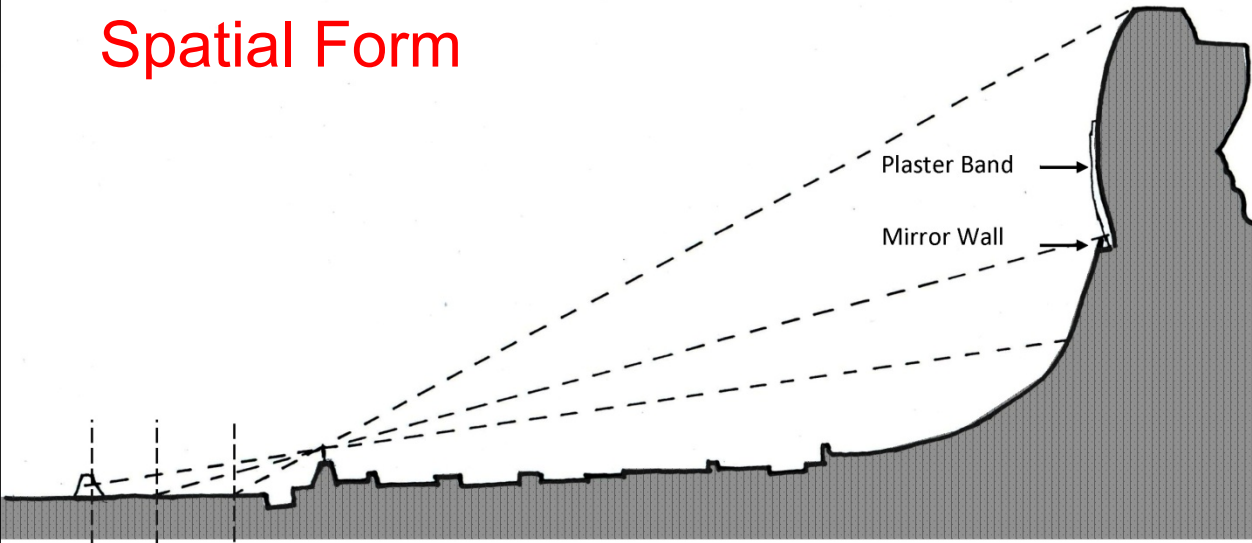
Brick Embankment
& Limestone Pathway



25m 0 25m 50m

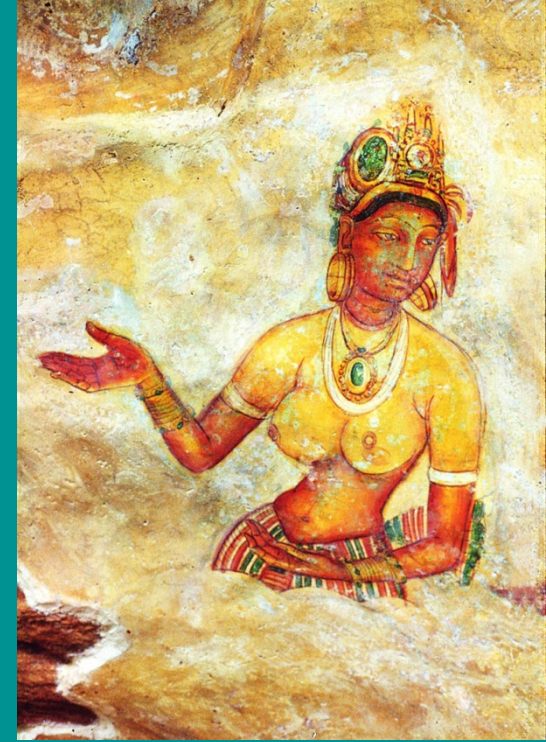
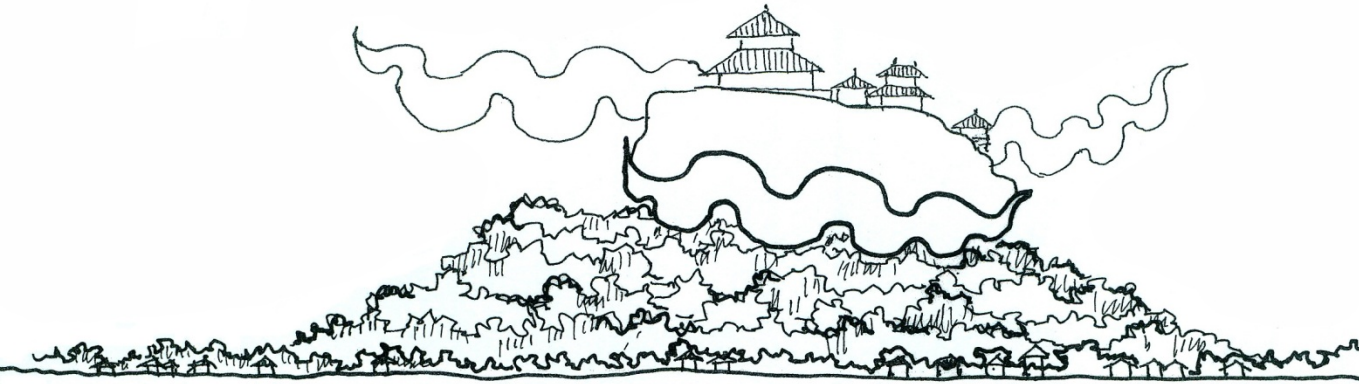
➤ Symmetry and asymmetry to balance / control the composition which brings the landscape design in closest harmony with nature

Spatial Form



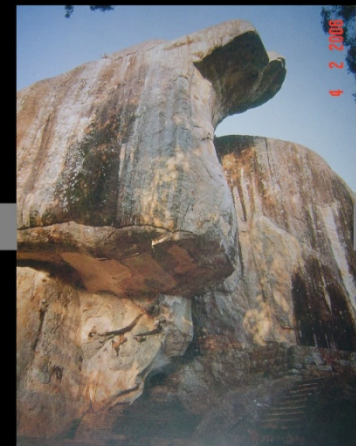
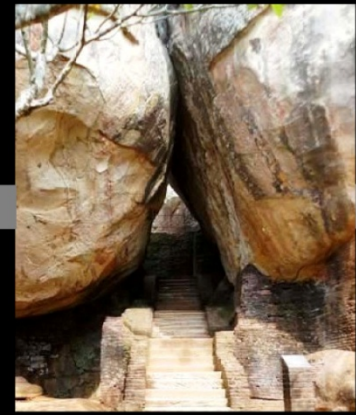
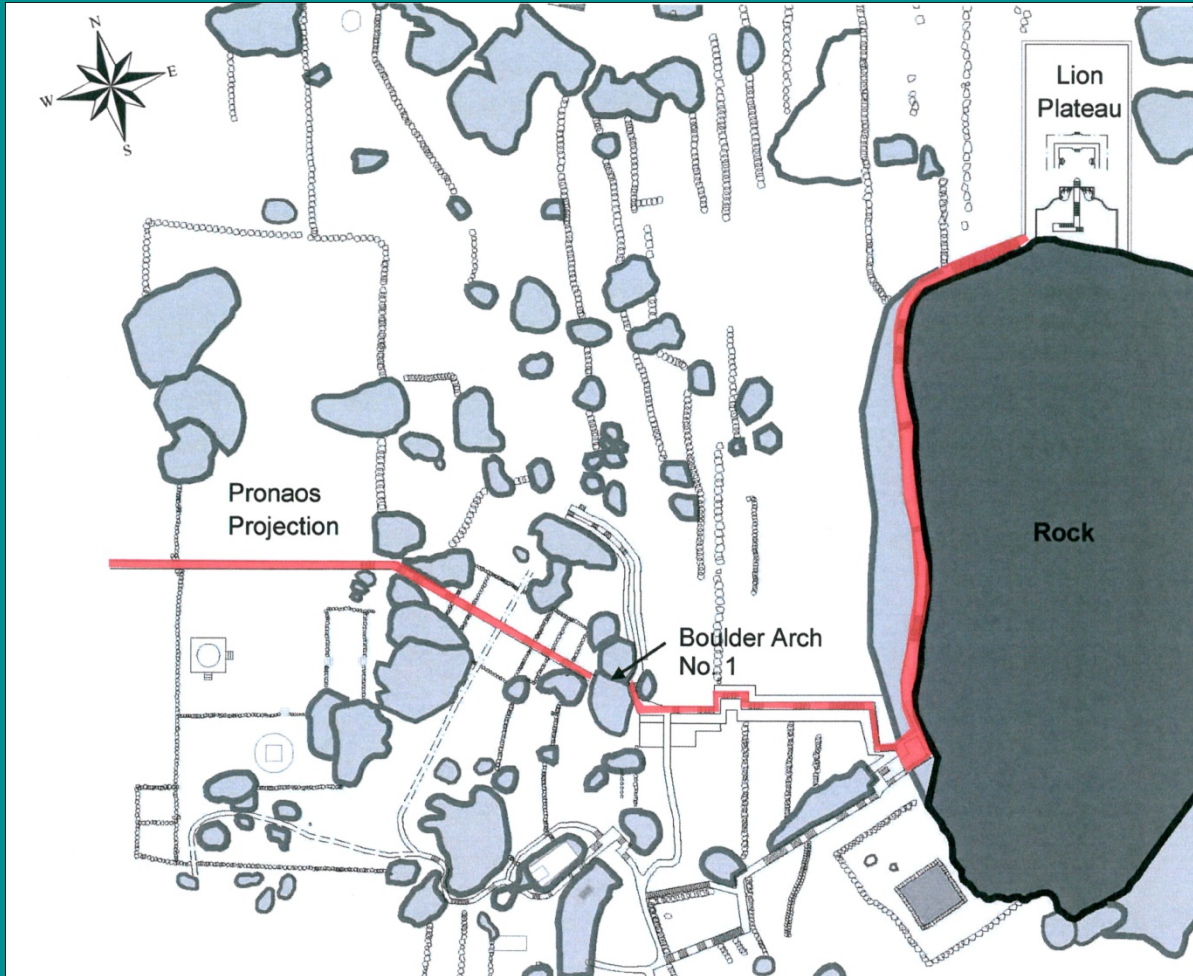
- N-S axis: the line of movement and the major line of the 3D space with overwhelming presence of the rock and providing visual interplay of various elements
- Rock oriented spatial composition from the plain

Spatial Form



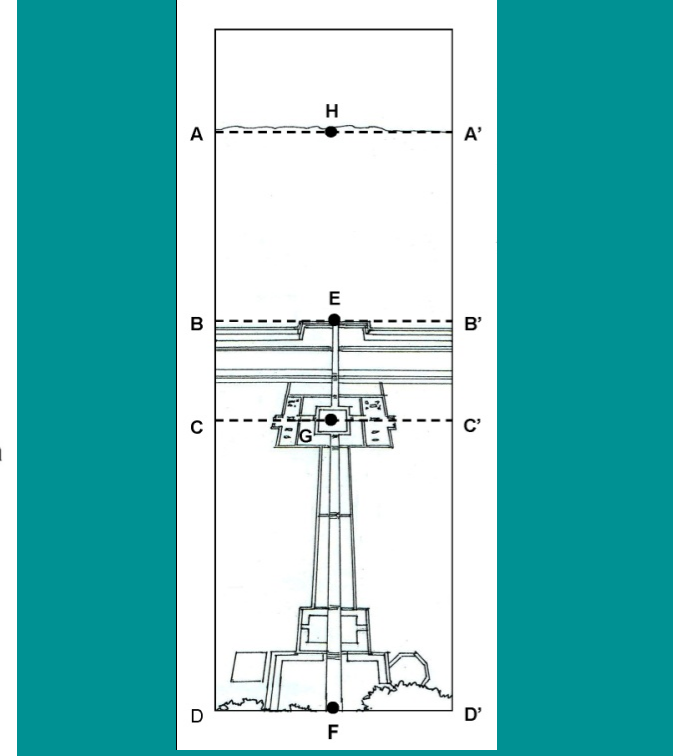
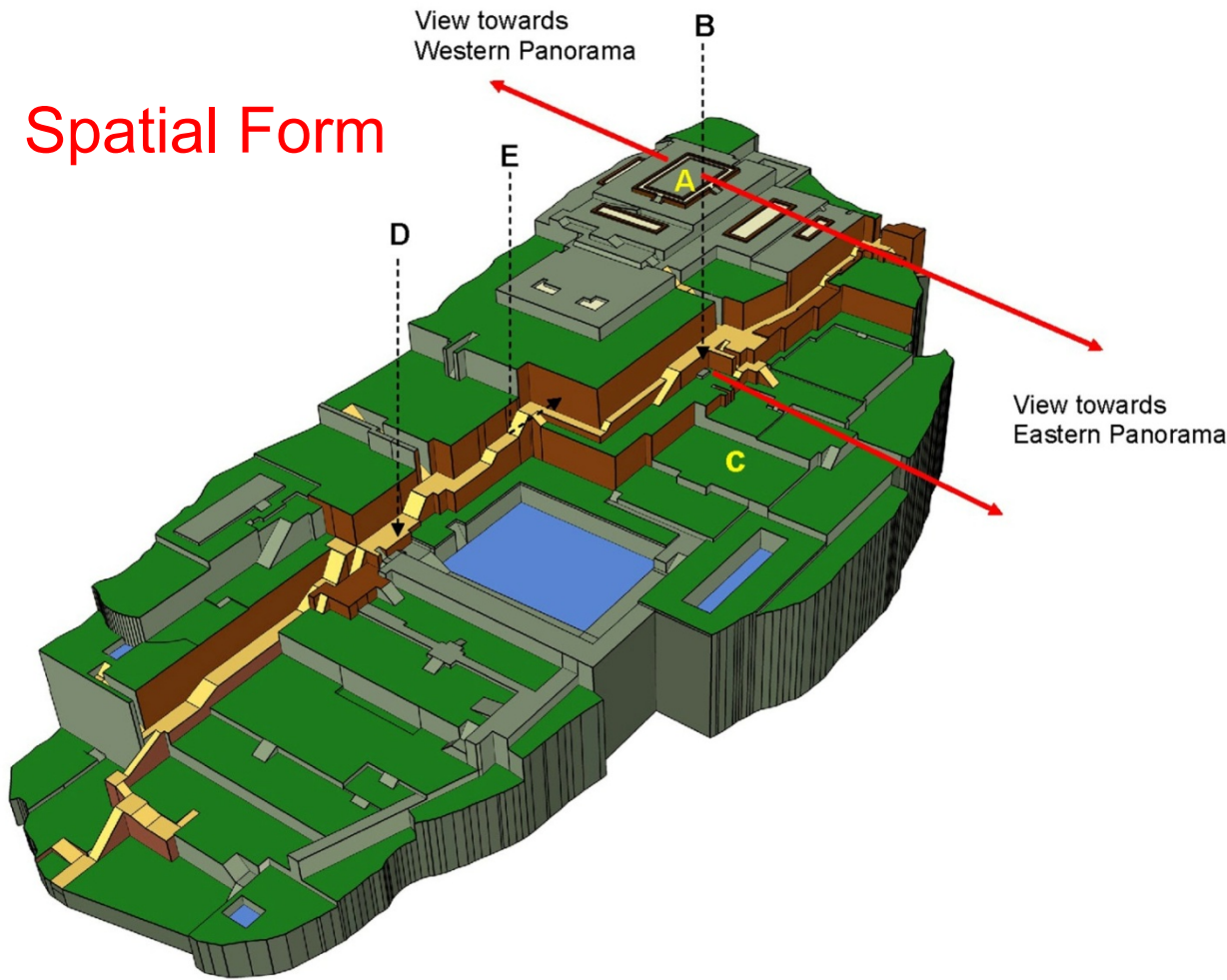
- A special technique of composition similar to the painterly technique of composition, to visually and spatially separate the palace on the rock summit from the land to give a floating effect to the aerial palace

Spatial Form

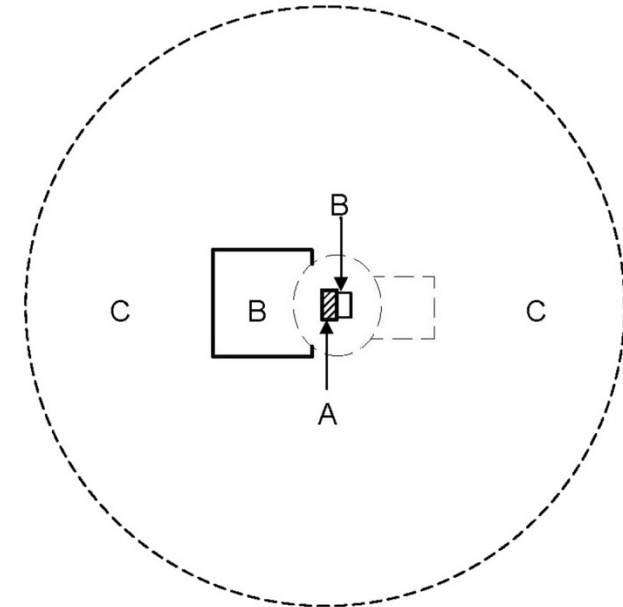


- Dramatic composition using the natural boulders with a technique of free design

Spatial Form



➤ From the rock summit: a panorama oriented spatial composition organized in the hierarchical order of the palace, garden and the outer landscape with optical boundaries extending up to the horizon

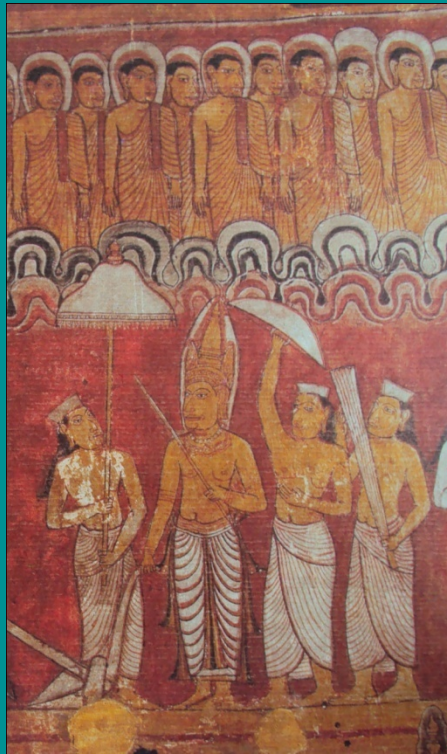
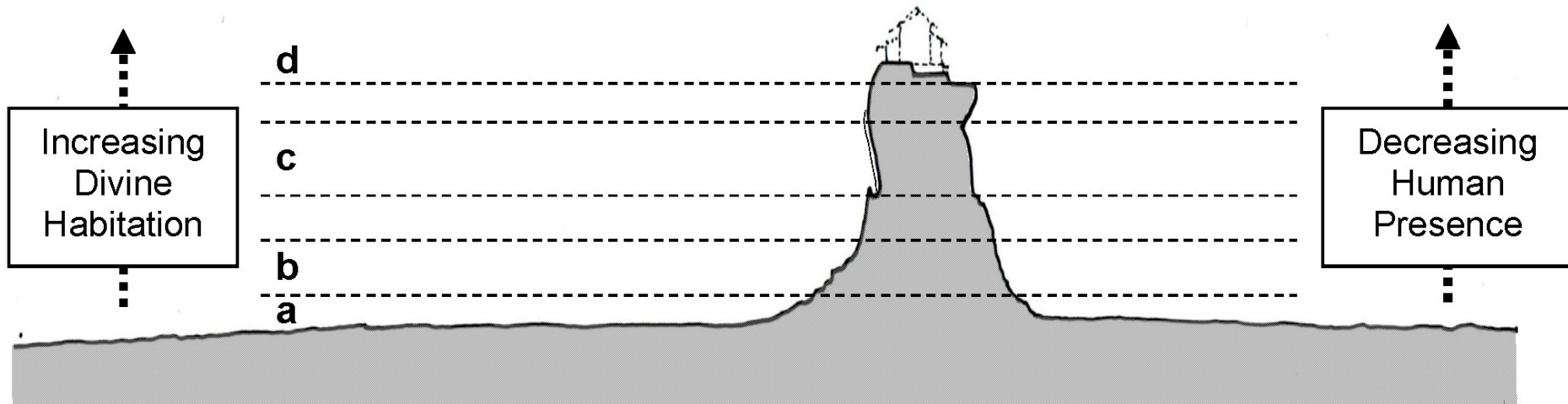


Spatial Form



- Organized in a scenographic sequence, view points and panoramas, the spatial effects of the scheme reveal the composition step by step from a rock oriented composition to a panorama oriented one.
- A reversible spatial composition depending on the view point

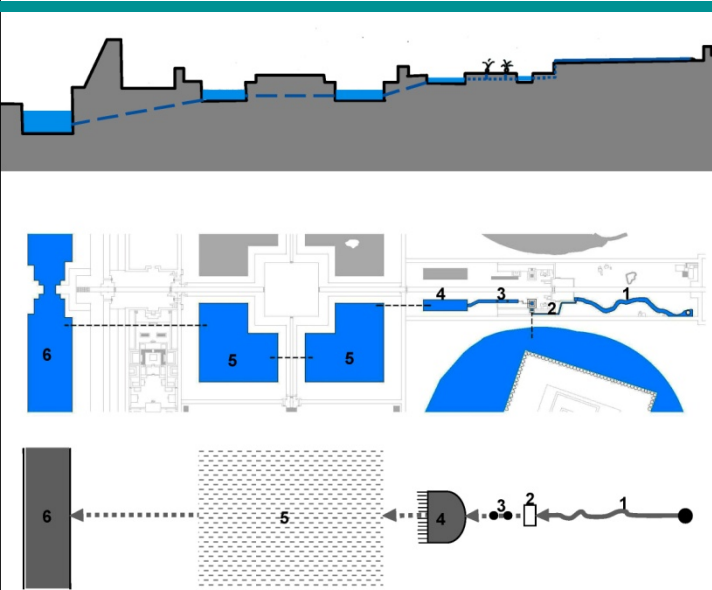
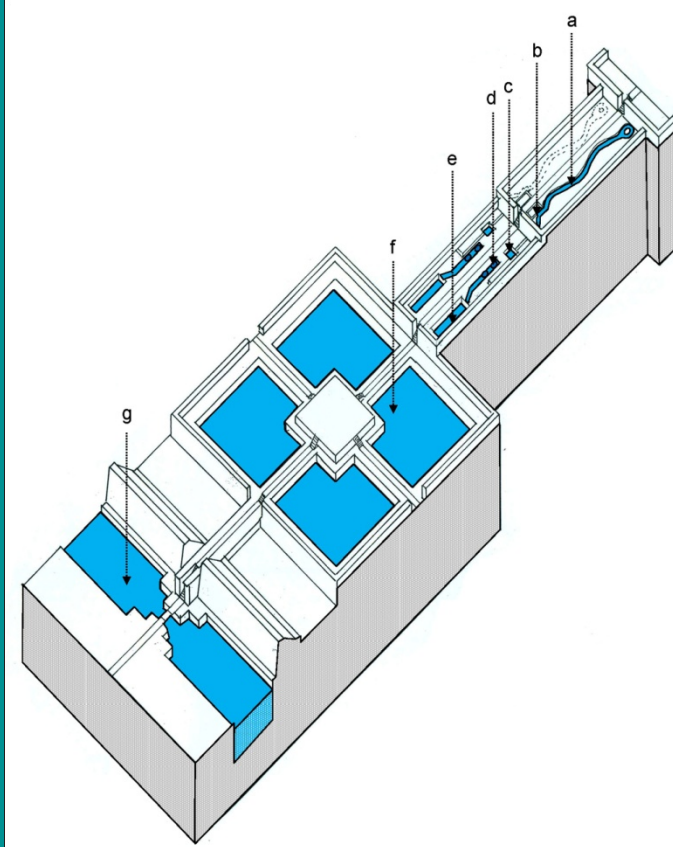
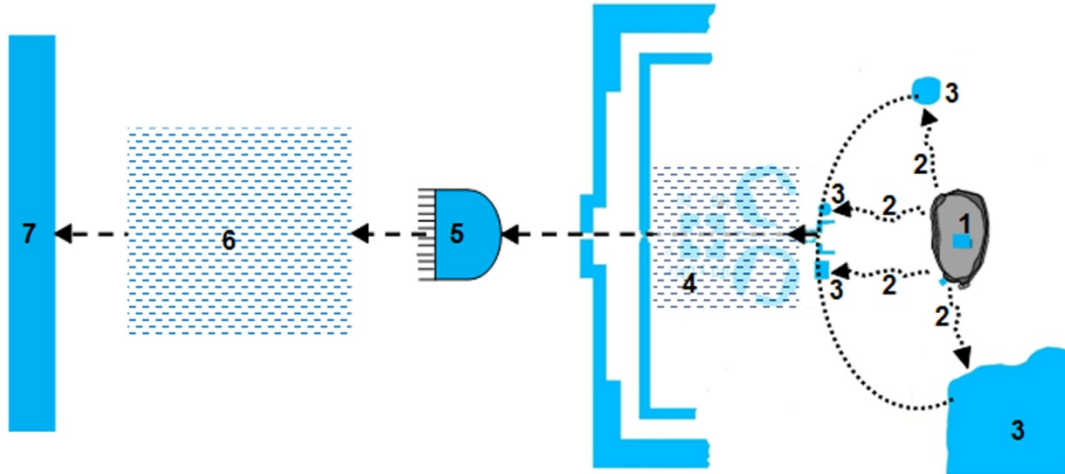
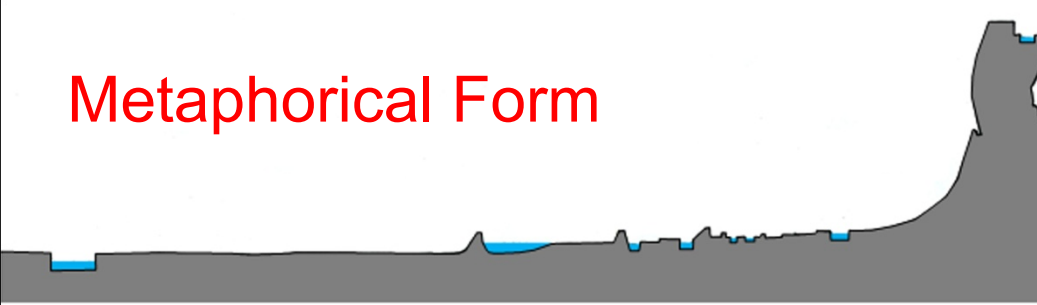
Metaphorical Form



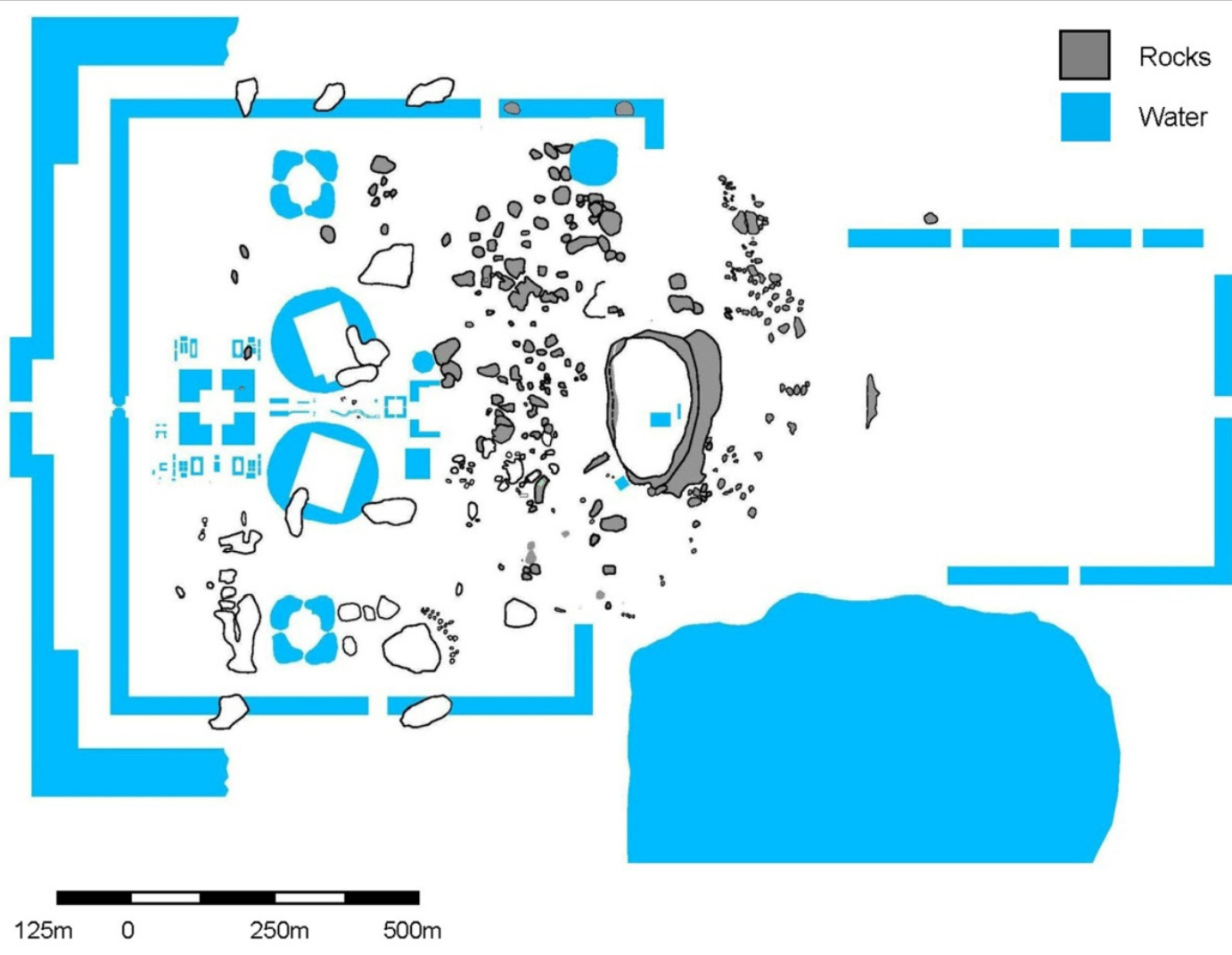
➤ Bottom-up vertical sequence of visual structuring system consisting of several visual layers arranged along a visual vertical axis formed by the rock reflecting decreasing human presence and at the same time, increasing divine habitation

➤ Makes the palace the dominant metaphorical element

Metaphorical Form



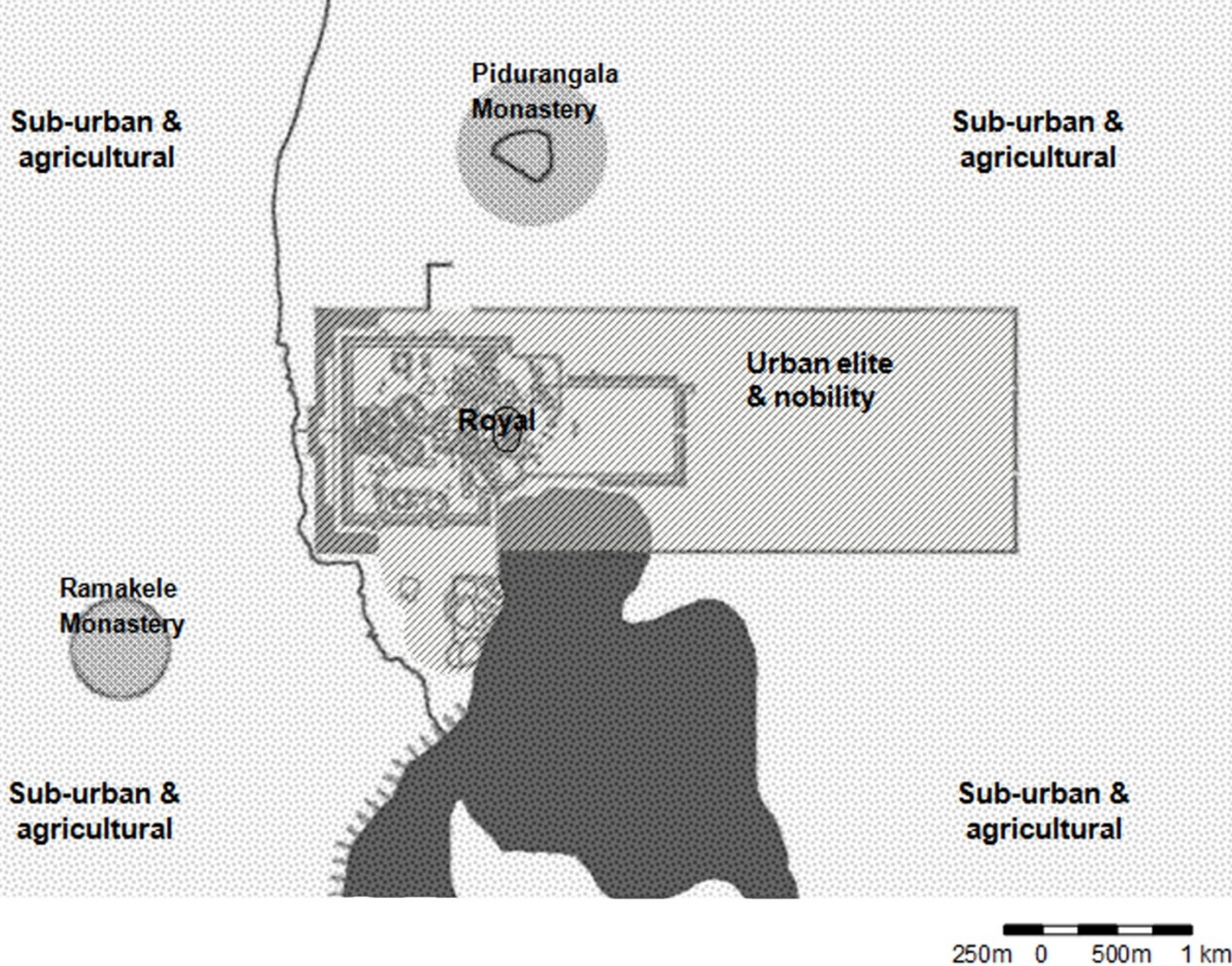
➤ The visual structuring of the hydraulic elements from the rock summit up to the open landscape through the pleasure garden as if the water originates from the rock summit, reflecting the cosmic pattern, which represents the hydrologic cycle that produces fertility on earth and the philosophy behind ancient irrigation engineering to irrigate the land.



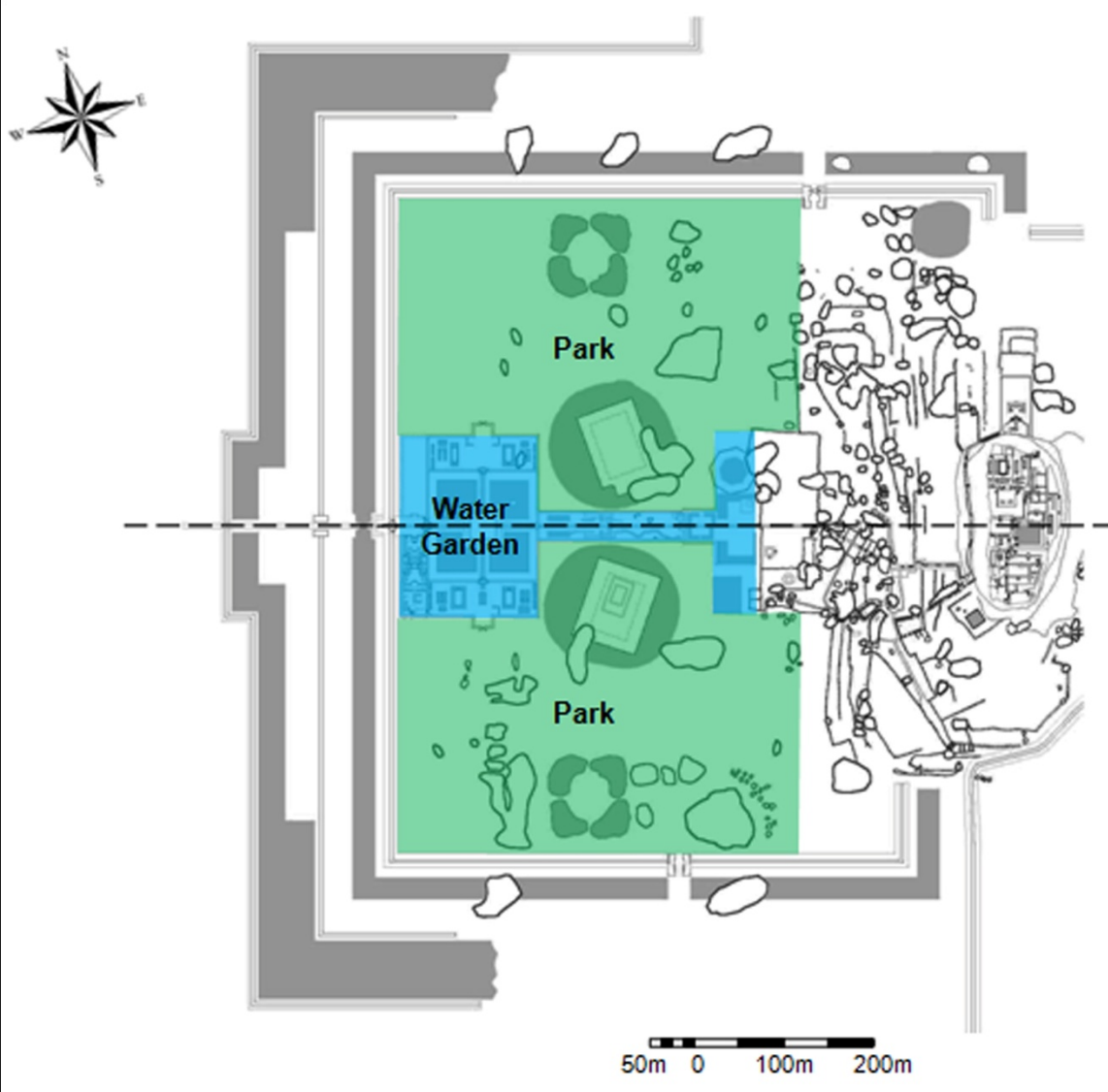
Metaphorical Form

- Visual structuring of various metaphorical elements (ex: decreasing masses and increasing sheet of water from the centre towards the periphery) also make the scheme a rock oriented composition

Programmatic Form



- several programmatic domains that are organized both vertically and horizontally in the sequence of the palace, inner city, outer city, suburbs and natural cum agrarian settlements in the hierarchical order of decreasing dominance from the center to the visual boundaries of the scheme to emphasize the palace as the dominant programmatic domain (reflecting the divine status of the king)



Programmatic Form

- Planned balance between *otium* and *negotium*: Landscape design of Sigiriya facilitates both the enjoyment of nature, sensual pleasure and leisure (*otium*) and for the king to efficiently rule the country (*negotium*)

Comparison with the design instruments and aspects of the West European landscape tradition:

- **Closely ranks with the Italian Renaissance villa**
(natural morphology, position, geometric ordering system, proportions, spatial structure , symmetry, axis, centralized hierarchical composition, etc)
- **Share some design instruments developed at French baroque gardens**
(treatment of the spatial axis, scenographic movement, perspectival effects etc.)

Some of the design innovations of the West European landscape tradition were already in existence in the 5th century landscape design of Sigiriya

- Unique design instruments and aspects of Sigiriya:
 - ❖ compositional balance using symmetrical and asymmetrical balance
 - ❖ integration of natural elements in to the geometrical ordering system
use of elements to achieve illusionary effects
 - ❖ reversibility of the composition

Conclusions

- Architectonic design of Sigiriya constitutes multiple design layers and multiple layers of significance with material-spatial-metaphorical-functional coherence
- It has both general and unique landscape architectonic elements, aspects, characteristics and qualities
- Richness of its composition also enables to identify the landscape architectural value of the Sigiriya, which will help re-shape the policies related to its conservation, presentation and management
- Positive results of the study underline that the methodology of TU Delft is of universal applicability to study landscape architecture
- Methodology has devised a framework for the study of other examples of historical gardens and landscapes of Sri Lanka, which will eventually provide insight into the typological aspects of the possible Sri Lankan tradition of landscape design.

Thank You