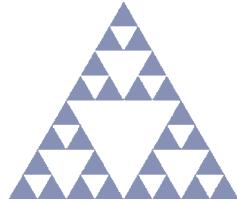


Sriganesh Rajendran

# GARDEN ART AND THE COSMOS

THE IUCAA CAMPUS PUNE



## The Cosmos – a theme for Garden Art

The Cosmos as a Garden Art theme can be noticed in at least three examples – Jantar Mantar observatories (Sawai Jai Singh, various, 1727-1734)<sup>1</sup>, the Garden of Cosmic Speculation (Charles Jencks and Maggie Keswick, Scotland 1989-2007)<sup>2</sup> and the campus of the Inter University of Astronomy and Astrophysics – IUCAA in Pune, completed in 1993, and designed by Charles Correa, with the landscape designed by Kishore Pradhan. These semi-private spaces rely on overt and subtle symbols to express some of their key ideas

within a garden setting. The nomenclature, purpose, readability and expression of astrophysics and astronomy as leitmotifs in them can be experienced as stories. Such stories at IUCAA are accessed hereon, with the license to not to dwell upon every single detail, keeping some clues to oneself.<sup>3</sup>

### Name stories

Within the 411-acre campus of Pune University campus IUCAA occupies a site area of approximately 20 acres with its core area – the Devayani block – nestled between two roads, one dedi-

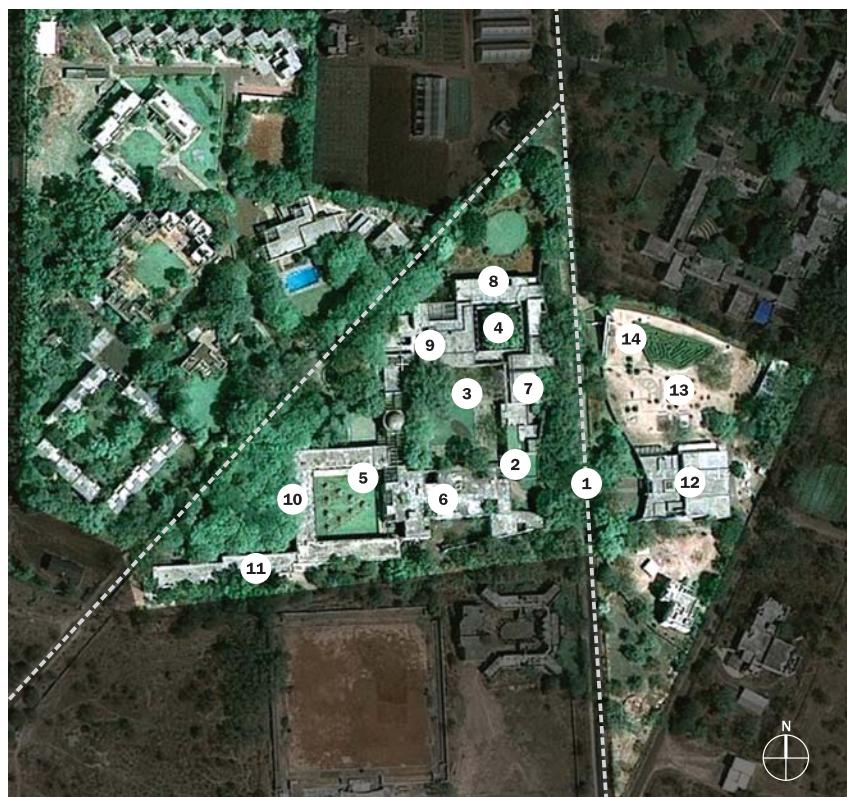
cated to Astronomy and the other to Astrophysics.<sup>4</sup> The Devayani is block structured around three courtyards, with its four blocks named after ancient Indian astronomers. Many names at IUCAA contain ancient stories.<sup>5</sup> The name of Dr. Jayant Narlikar is synonymous with IUCAA as Founder Director, his preference for Pune University Campus as the place and his suggestions of the scientific themes recurring as art installations.<sup>6</sup> Professionally, the architect and landscape architect's long collaboration perhaps finds its most fluid expression at IUCAA in terms of scale, variety, resolution and meaning.<sup>7</sup>



## Place stories

The arrival/exit is defined by two swerving black masonry walls flanking the road, symbolizing the formless blackness of outer space.<sup>8</sup> At times, the masonry and the staggered entrance allude to the old *wadas* in Pune while a replica of the Samrat Yantra<sup>9</sup> beckons the Pune sky from the opposite side of road. Here at the entrance/ exit, in one sweep, symbolic references to place and ideology, bind two gardens of the cosmos separated in time.

Recalling the original and altered site character, landscape architect Kishore Pradhan points out that "...the original landscape elements are the banyan trees that punctuate open space. IUCAA is ringed with a belt of suitable semi-evergreen trees, generating a pleasant ambience contrasting with the monoculture dry-deciduous landscape of the Pune University. A better landscape setting to IUCAA keeping in mind the poor soil and low groundwater was the key challenge...".<sup>10</sup> His colleague Prof. Vartak recalls the construction of the inch-precise granite *kund* and the successful transplantation of trees falling within the building footprint as key steps in realizing the project as concieved. The grafting of specimen from Newton's original apple tree in IUCAA is another well-known story.<sup>11</sup>



FACING PAGE [LEFT TO RIGHT]

**The Jantar Mantar, Jaipur** with the various instruments designed and built by Sawai Jaisingh within a high walled enclosure. [Image source: Author]

**Galactic space as mounds and waterbodies. Garden of Cosmic Speculation, Scotland.** [Image source: www.romankrznaric.com/Gardening/cosmicspeculation2.jpg]

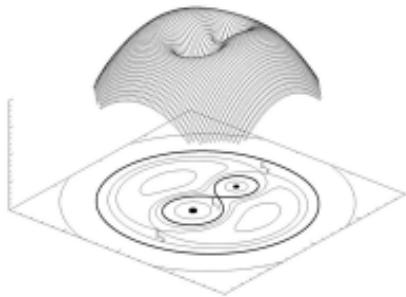
**Representation of a black hole at the Garden of Cosmic Speculation, Scotland.** [Image source: Wikimedia commons]

THIS PAGE

**IUCAA site plan showing the three zones and two main roads.** The central portion is the Devayan block. [Original image source: Wikimapia 02-02-2010]

### LEGEND

- |                       |                        |
|-----------------------|------------------------|
| 1. Entrance           | 9. Library             |
| 2. Kund               | 10. Students' Hostels  |
| 3. Black Hole         | 11. Guest Apartments   |
| 4. Roche Lobes        | 12. Exhibition Gallery |
| 5. Serpinski's Gasket | 13. Science Park       |
| 6. Faculty Offices    | 14. Samrat Yantra      |
| 7. Lecture Halls      |                        |
| 8. Computer Centre    |                        |

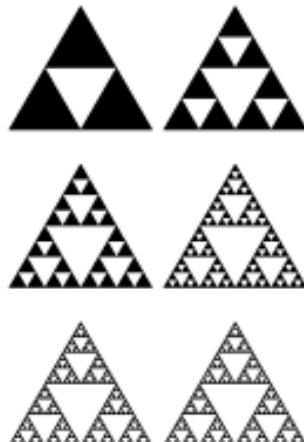


## Astral stories

In the Devayani block, the four major elements of the Institute – the Library, Faculty offices, Lecture halls and Student facilities define a large courtyard themed with an image of a black hole seen through a radio telescope.<sup>12</sup> The composition is fringed with a stepped *kund* – a “metaphor of our expanding

**THIS COLUMN | ABOVE & CENTRE**  
**Planar boundaries and three dimensional mesh of a Binary star.** [Source: e-education.psu.edu]

**Banyan trees as Binary stars and the plaque illustrating the concept.** [Image source: Author]



*universe*”.<sup>13</sup> However, the flat ground plane and the vastness of the courtyard downplay the powerful analogy of a void.<sup>14</sup> An elevated viewing point and an imagination of the faceted edges of the *kund* as pulsating lines is therefore necessary in order to grasp the full ‘gravity’ of the design. It leaves one to

**THIS COLUMN | ABOVE & CENTRE**  
**Sierpinski triangle- iterative progression of geometry.** [Source: nbickford.wordpress.com]

**The planter bed today with flowering shrubs.** [Image source: Kishore Pradhan and Associates]

interpret the design as an energy field, black hole, *yantra*, *mandala* or a *kund*, and their interchangeability in available rhetoric.<sup>15</sup> Despite horticultural deviations in later years, this principal courtyard has retained its original essence and remains the space with the highest visual recall in the entire campus.

The posture of the large statues of Newton, Aryabhatta, Galileo and Einstein in the main courtyard allude to their contribution to astral science. Notwithstanding Dr. Narlikar’s joke about Newton trying to solve the problem of an apple fallen below a *banyan* tree, the statues collectively convey a profound message apart from lessons in architectural scale. An ancillary courtyard accommodates an imaginative expression of a Binary star<sup>16</sup> using an existing and a transplanted *banyan* tree. A plaque explains the phenomenon in brevity, leaving adequate scope for planar and volumetric visual co-relation. A Fractal garden in the form of a Sierpinski triangle forms the theme of the third courtyard with unexplored volumetric possibilities where later in-house horticultural forays have replaced the original planting of Orange trees and *Setcreasea purpurea*.



ABOVE

**Open space, Garden Art and people at IUCAA.**  
[Image source: Kishore Pradhan and Associates]



ABOVE  
**Main Courtyard with matured additional trees.**  
Circa 2005. [Image source: Author]

RIGHT  
**Newton gazing at the fallen apple. The statue of Newton is at the north-west corner of the courtyard.** [Image source: Author]





## Learning about Garden Art from IUCAA

Much of our landscapes tend to incorporate art flippantly, ‘on the sole theory that no theory is needed for its planning’<sup>17</sup> thereby putting attractive art pieces in them and hoping that some ‘meaning’ will emerge. In this light, IUCAA can be seen as questioning the basis of Art in landscape design including the need for art; the role of the art as a theory of landscape design; the form that art should take in the design of landscapes, since ‘–scape’ itself con-

notes artistic manipulation; and the qualities of space, form, meaning and experience that emerge.

IUCAA oscillates tenuously between saying too much and saying little while relying on rhetoric and simplification of form to express difficult-to-grasp concepts. It rarely saddles the viewer with high-intelligence participation otherwise needed to make sense of such themes, a criticism leveled at Jencks’

garden. Noticeably, IUCAA’s courtyards are rarely stepped on to; usage being limited to the perimeter, but when the users look up from their desks, the gardens engage them fleetingly at the least. In that moment they communicate something out-of-the-ordinary. The allusions at the entrance/exit may be subjective; yet, between arrival and exit time, IUCAA is a vivid attempt to engage with an unfathomable natural dimension – the Cosmos.



As an architectural garden IUCAA is akin to a bioscope and best experienced through its apertures—a Charles Correa leitmotif. Notably, IUCAA is indeed a “rich reservoir of images and beliefs, like the transparent layer of a palimpsest-with all the colours and patterns equally vivid-starting with the model of the cosmos and continuing down to the images of this century.”<sup>18</sup>



#### ABOVE

**The main courtyard access is framed by walls clad in basalt, kadappah and polished granite.** [Image source: Author]

#### FACING PAGE

**Samrat Yantra at IUCAA aligned as per Pune's latitude. Circa 2005.** [Image source: Author]

#### References

1. Sawai Jaisinh built his observatories at Delhi, Jaipur, Mathura, Ujjain, and Varanasi. The etymology for the term stems from the Sanskrit words for ‘instrument’ (*yantra*) and ‘formulae’ (*mantra*) – tools for scientific pursuit. Whether Sawai Jai Singh referred to these observatories by this collective term is not known; possibly of colloquial origin. The architectural scale of the instruments allows reading the Jantar Mantar as an assortment of free-standing walls and modulated ground planes, creating ‘outdoor space’ usually within a walled enclosure. The evident sense of orientation, resonance with historic ideas, culture and the protagonist’s world view form additional parameters that allow the Jantar Mantar to be reckoned as a ‘garden’, and overall as Garden Art.
2. The ‘Garden of Cosmic Speculation’ by Charles Jencks and Maggie Keswick is heralded as amalgamating landscape design and contemporary science to create a garden in which art and nature forge new visual and spatial relationships through vast sculpted earth works, lakes and engineered structures.
3. The author expresses his heartfelt thanks to landscape architect Mr. Kishore Pradhan and his long-time colleague Ar. (Prof). Ramesh Vartak for enthusiastically sharing their experiences of IUCAA. The narratives referred corroborate many of the cues present in the outdoor design. “give me the license not to dwell upon every single detail, allow me to keep some clues to myself”. Cf. Orhan Pamuk. *My Name is Red* (London: Faber & Faber 2001) Ch 4, p 20.
4. Named after Dr. Meghnad Saha and Dr. Vainu Bappu, two stalwarts in Indian Astrophysics and Astronomy respectively, the two roads dissect the campus and form the main circulation around IUCAA. The campus is in three parts as a consequence, zoned as residential, academic and public activity area.
5. Devayani (*Sans. Mastermind, syn. Andromeda galaxy*). The Indian astronomers are Aryabhatta, Varahamihira, Bramhagupta and Bhaskara. Other names include Akashganga – the staff housing named after the milky way galaxy and Aditi (lit. boundless, also a mythical star) – the public zone. The hostels – Nalanda and Takshashila – recall ancient India’s glorious academic institutions. Ballava (lit. cook) – the name for the dining facility is the only major aberration. The name alludes to Bheema’s disguise as a cook during the Pandavas’ exile. Apart from the mythical and gastronomic allusion, there is no connection to the themes of Astronomy and Astrophysics as found elsewhere on the IUCAA Campus.
6. The themes spanned the indoors and the outdoors and were meant to mentally stimulate and inspire the people at IUCAA. (Pradhan & Vartak, 2011, personal communication).
7. Charles Correa was simultaneously working on prestigious projects like the Jawaharlal Nehru Institute for Development banking (JNIDB (1986-1991, Jawahar Kala Kendra (1986-92), IUCAA

(1988-92) and the Bhopal Vidhan Bhavan. These projects employ – at differing scales– similar spatial devices, themes and variations, notably the *mandala*. These projects had Kishore Pradhan as the landscape architect.

8. Kenneth Frampton (ed.), *Charles Correa: Complete Works* (New York: Perennial Press, 1997) p206.

“Black on black, the visual structure of outer space”.

9. An Equinoctial sundial found in all the Jantar Mantar complexes.

10. Within the university of Pune University campus (PU) the approach to IUCAA is experienced as monoculture patches due to the incidence of *Dalbergia melanoxylon* (Patangi, African Blackwood; native to dry tracts of Africa) and *Gliricidia sepium* (Rat poison, Mexican lilac; native to South America) as a re-forestation scheme. The choice of these exotics seems to have been dictated by the terrain, drought tolerance, pest resistance and commercial value.

11. The attempt to plant three saplings of the apple tree associated with Newton was the brain-child of Dr. J. Narlikar. Prof. Vartak points out this urge to create a genetic link for Newton's statue to have been a pre-occupation on the part of Dr. Narlikar, since the project's inception. [Indian Express, 20-01-1998. Retrieved 06-03-2011 from [www.indianexpress.com/ie/daily/19980120/02050994.html](http://www.indianexpress.com/ie/daily/19980120/02050994.html), and, Hindustan Times, 5-05-2007. Retrieved 06-03-2011 from [www.hindustantimes.com/Article1-220772.aspx](http://www.hindustantimes.com/Article1-220772.aspx).

12. The image is executed with groundcover plants and disjointed random tiling. The original concept by the architect for the black hole suggested plants with perennial black foliage. Seeing the horticultural limitations and practicality, this was substituted by “a darker color that would

remain throughout the year”. *Setcreasea purpurea* was the chosen as the final option. (Pradhan & Vartak, 2011, personal communication).

13. Frampton (1997) p206. (Emphasis added)

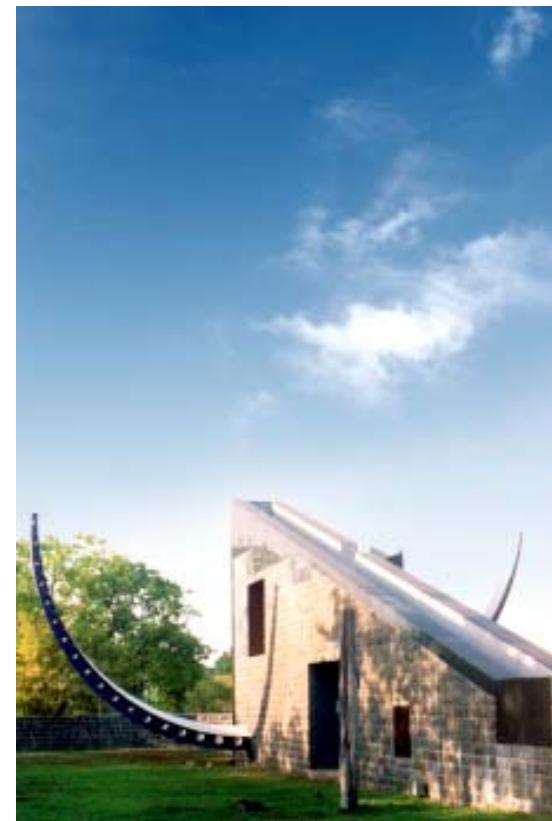
14. At IUCAA, along with the radio-telescope image of the black hole the *kund* lends itself to an alternative reading as an overlay of ancient and modern concepts of a black hole – a centripetally converging matter, rather than an “expanding universe” – centrifugally unfolding matter. Kenneth Frampton has drawn attention to the disjointed paving running diagonally across the courtyard as a radiating “centrifuge of energy extending out towards the limits of space”. See Frampton and Correa (1997) p15.

15. Charles Correa, *Theme and Variations, Architecture +Design*, Sep-Oct (1991) p 92. Here, the architect also writes about the analogy of the energy field of the *mandala* to a black hole.

16. Binary star – system of two stars orbiting around their common centre of mass. The brighter star is the Primary star and the other is the Companion star. (e.g. Sirius).

17. Garret Eckbo, *Landscape for Living* (1950). In its original context, the quote forms a part of Eckbo's views on the lack of an environmental planning theory and the ad-hoc implementation of environmental policies in the USA in the 1960's.

18. Correa, Charles, *The Public, the Private and the Sacred*, *Architecture+Design* Sep-Oct 1991 p97. Correa uses the phrase to bring to attention the pluralism and multiple layers of form, images and meanings arising due to varied belief systems that engage the Indian mind.



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